Document 00911

NOTICE OF
ADDENDUM NO. __1__

Date of Addendum: 11/12/15

PROJECT NAME: Low Lift Pump Station (LLPS) Direct Connection and Pressure Regulating Station (PRS) at East Water Purification Plant (EWPP)

PROJECT NO: S-000902-0133-4

BID DATE: December 3, 2015 (There is a change in the Bid Date.)

FROM: J. Timothy Lincoln, P.E., City Engineer
City of Houston, Department of Public Works and Engineering
611 Walker, 15th Floor
Houston, Texas 77002
Attn: Arthur Morris, P.E., Project Manager

TO: Prospective Bidders

The referenced Addendum forms a part of the Bid Documents and will be incorporated into the Contract documents, as applicable.

Written questions regarding this Addendum may be submitted to the Project Manager following the procedures specified in Document 00200 – Instructions to Bidders. Immediately notify the City Engineer through the named Project Manager upon finding discrepancies or omissions in the Bid Documents.

This Addendum includes:

ADDENDUM SYNOPSIS

Changes to Project Manual
- Bidding Requirements
- Contract Forms
- Specifications

Changes to Drawings

DATED: Ravi Kaleyatodi

S.D. Acw

Ravi Kaleyatodi, P.E., CPM
Senior Assistant Director
Department of Public Works and Engineering

END OF DOCUMENT

Document 00910

ADDENDUM NO. 1

Date of Addendum: 11/12/15

PROJECT NAME: Low Lift Pump Station (LLPS) Direct Connection and Pressure Regulating Station (PRS) at East Water Purification Plant (EWPP)

PROJECT NO: WBS No. S-000902-0133-4

BID DATE: November 19, 2015

FROM: J. Timothy Lincoln, P.E., City Engineer
City of Houston, Department of Public Works and Engineering
611 Walker
Houston, Texas 77002

Attn: *Arthur C. Morris, P.E.*, Project Manager

TO: Prospective Bidders

This Addendum forms a part of the Bid Documents and will be incorporated into the Contract documents, as applicable. Insofar as the original Project Manual and Drawings are inconsistent, this Addendum governs.

This Addendum uses the change page method: remove and replace or add pages, or Drawing sheets, as directed in the change instructions below. Change bars (|) are provided in the outside margins of pages from the Project Manual to indicate where changes have been made; no change bars are provided in added Sections. Reissued Drawing Sheets show the Addendum number below the title block and changes in the Drawing are noted by a revision mark and enclosed in a revision cloud.

CHANGE IN BID DATE

The Bid Date for this Project has been changed from November 19, 2015 to December 3, 2015. Time of day and place for submittal of bid remains the same.

CHANGES TO PROJECT MANUAL

1. Document 00010 – Table of Contents. Replace entire document.

BID REQUIREMENTS

2. Document 00210 – Supplementary Instructions To Bidders, Page 00210-4. Replace entire Page 00210-4 with attached Page 00210-4.

3. Document 00220 – Request for Bid Information. Replace entire document.

4. Document 00410 – Bid Form, Part A & B. Replace entire document.

CONTRACT FORMS

5. Document 00520 – Agreement. Replace entire document.

6. Document 00620 – Affidavit of Insurance. Add attached Form HOU3 to the section.

7. Document 00624 – Affidavit of Compliance with Affirmative Action Program. Replace entire document.

SPECIFICATIONS

8. Section 01110 – Summary of Work. Replace entire document. Appendices remain the same with exceptions noted in this addendum.

9. Section 01110 – Summary of Work, Appendix E. Replace entire Appendix E.

10. Section 01110 – Summary of Work, Appendix F. Add the attached location map.

11. Section 01270S – Measurement and Payment. Replace entire document.

12. Section 02221S – Removing Existing Pavement and Structures. Add entire document.

13. Section 13121 – Flow Control Sluice Gate. Replace entire document.

CHANGES TO DRAWINGS

14. Drawing Sheet 7, Note 5. Replace entire Note 5 with the following:

    5. REMOVE AND SALVAGE EXIST. WIRE WALL SECURITY FENCE GATE. REINSTALL MODIFIED FENCE GATE AT NEW LOCATION SHOWN ON THE DRAWING. SEE SHEET 28 FOR MORE DETAILS.

15. Drawing Sheet 7, Note 8. Replace entire Note 8 with the following:

    8. IF ENCOUNTERED DURING EXCAVATIONS, REMOVE EXISTING ABANDONED 42", 48" & 60" WATER LINES AS NECESSARY TO INSTALL PROPOSED PIPING, VAULTS AND OTHER IMPROVEMENTS. MAINTAIN MIN. 2 FT. VERTICAL SEPARATION BETWEEN TOPS OF EXISTING PIPES AND BOTTOM OF VAULT OR BUILDING STRUCTURES. PLUG EXPOSED ENDS OF EXISTING ABANDONED PIPES.

16. Drawing Sheet 28. Replace entire drawing sheet with attached Drawing Sheet 28.

17. Drawing Sheet 29. Replace entire drawing sheet with attached Drawing Sheet 29.

END OF ADDENDUM NO. 1

STATE OF TEXAS
WILLIAM M. WILSHIRE III
94193
LICENSED PROFESSIONAL ENGINEER
11/12/15
William M. Wilshire III

DATED: Ravi Kaleyatodi

Ravi Kaleyatodi, P.E., CPM
Senior Assistant Director
Department of Public Works and Engineeirng

END OF DOCUMENT

Document 00010

TABLE OF CONTENTS

NOTE: Bold capitalized Specification Sections are included in the City of Houston Department of Public Works and Engineering Standard Construction Specifications for Wastewater Collection Systems, Water Lines, Storm Drainage, Street Paving, and Traffic located here: **http://documents.publicworks.houstontx.gov/document-center/cat_view/88-engineering-and-construction/92-specifications/208-division-02-16-standard-specifications.html**; and are incorporated in Project Manuals by reference as if copied verbatim. Documents listed "for filing" are to be provided by Proposer and are not included in this Project Manual unless indicated for example only. The Document numbers and titles hold places for actual documents to be submitted by Contractor during Proposal, Post-Proposal, or Construction phase of the Project. Specification Sections marked with an asterisk (*) are amended by a supplemental specification, printed on blue paper and placed in front of the Specification it amends. Documents in the 200, 300 and 400 series of Division 00, except for Document 00410B – Proposal Form, Part B, are not part of the Contract.

END OF DOCUMENT

4. Individual subtotals for Stipulated Price, Base Unit Prices, Extra Unit Prices, Contractor Bonus, Cash Allowances, and Alternates; and the Total Bid Price	Sum of Individual subtotals for Stipulated Price, Base Unit Prices, Extra Unit Prices, Contractor Bonus, Cash Allowances and Alternates

10.0 – BID SUBMISSION: Add the following Paragraph A.1 to this Section:

A. Add the following Paragraph A.1:

1. City Secretary will receive Bids at 900 Bagby, Room P101, Houston, Texas until 10:30 a.m., local time on December 3, 2015.

15.0 – PREBID MEETING: Add the following Paragraph A.1 to this Section:

A. Add the following Paragraph A.1:

1. A Prebid Meeting will be held at 10:00 A.M. on Tuesday, November 3, 2015, in 15th Floor, Conference Room No. 1546 at 611 Walker, Houston, Texas 77002.

END OF DOCUMENT

Document 00220

REQUEST FOR BID INFORMATION

PROJECT: Low Lift Pump Station (LLPS) Direct Connection and Pressure Regulating Station (PRS) at East Water Purification Plant (EWPP)

PROJECT No.: WBS No. S-000902-0133-4

TO: Arthur Morris, P.E.
15th Floor
611 Walker, Houston, Texas 77002

Phone No. (832) 395-2317
Fax No. (832) 395-2333
Email Addr. arthur.morris@Houstontx.gov

(Type or Print question legibly; use back if more space is needed)

This request relates to _____ (Drawing / Detail No.) and/or _____ (Specification Section No.)

Attachments to this request: _____

_____ Signature

_____ Date

_____ (Type or Print Name)

_____ (Type or Print Company Name)

END OF DOCUMENT

Document 00410A

BID FORM – PART A

To: **The Honorable Mayor and City Council of the City of Houston**
City Hall Annex
900 Bagby Street
Houston, Texas 77002

Project: Low Lift Pump Station (LLPS) Direct Connection and Pressure Regulating Station (PRS) at East Water Purification Plant (EWPP)
Project No.: WBS. S-000902-0133-4
Bidder: _____
(Print or type full name of business entity, such as corporation, LLC, etc)

OFFER

A. Total Bid Price: Having examined the Project location and all matters referred to in Bid Documents for the Project, we, the undersigned, offer to enter into a Contract to perform the Work for the Total Bid Price shown on the signature page of this Document

B. Security Deposit: Included with the Bid is a Security Deposit in the amount of 10 percent of the Total Bid Price subject to terms described in Document 00200 – Instructions to Bidders.

C. Period for Bid Acceptance: This offer is open to acceptance and is irrevocable for 90 days from Bid Date. That period may be extended by mutual written agreement of the City and Bidder.

D. Addenda: All Addenda have been received. Modifications to Bid Documents have been considered and all related costs are included in the Total Bid Price.

E. Bid Supplements: The following documents are attached:

[X] Security Deposit *(as defined in Document 00200 – Instructions to Bidders)*
[X] Document 00450 - Bidder's Statement of MWSBE Status
[X] Document 00452 - Contractor's Submission List - Fair Campaign Ordinance Form A
[X] Document 00453 – Bidder's Statement of Residency *(not required for AIP funded project)*
[X] Document 00454 - Affidavit of Non-interest
[X] Document 00455 - Affidavit of Ownership or Control
[ ] Document 00456 - Bidder's Certificate of Compliance with Buy American Program *(required for AIP funded project)*
[X] Document 00457 – Conflicts of Interest Questionnaire (CIQ)
[ ] Document 00458 - Bidder's Certificate Regarding Foreign Trade Restriction *(required for AIP funded project)*
[ ] Document 00459 - Contractor's Statement Regarding Previous Contracts Subject to EEO *(required for AIP funded project)*

[X] Document 00460 – Pay or Play Acknowledgement Form (POP 1-A)
[X] Document 00470 – Bidder's MWSBE Participation Plan *(required unless no MWSBE participation goal is provided in Document 00800* (the "Goal")*)*.
[X] Document 00471 – Bidder's Record of Good Faith Efforts *(required if the goal in Bidder's Participation Plan–Document 00470 is lower than the Goal).*
[X] Document 00472 – Bidder's Goal Deviation Request *(required if the goal in Bidder's Participation Plan–Document 00470 is lower than the Goal).*
[X] Others as listed: Valid official letter from OBO with your designation as a City or Local Business *(Bidder's Participation Hire Houston First)*

CONTRACT TIME

A. If offer is accepted, Contractor shall achieve Date of Substantial Completion within **720** days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

Document 00410B

BID FORM – PART B

1.0 TOTAL BID PRICE HAS BEEN CALCULATED BY BIDDER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):

A. STIPULATED PRICE: $ N/A

(Total Bid Price; minus Base Unit Prices, Extra Unit Prices, Cash Allowances and All Alternates, if any)

B. BASE UNIT PRICE TABLE:

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
GENERAL						
1	01502	Mobilization See Footnote 1.	LS	1	$250,000.00(1)	$250,000.00(1)
2	01555	Traffic Control and Regulation See Footnote 2.	LS	1	$12,500.00(2)	$12,500.00(2)
3	01555	Flagmen See Footnote 2.	LS	1	$12,500.00(2)	$ 12,500.00(2)
4	01555	Install low profile concrete traffic barrier	LF	895		
5	01555	Remove low profile concrete barrier	LF	895		
6	01570	Filter Fabric Fence	LF	370		
7	01570	Inlet Protection Barrier	LF	96		
8	01570	Inlet Protection Barrier (gravel bags)	LF	40		
9	01575	Stabilized Construction Exit	EA	1		
10	01578	Ground Water control for Open-Cut Construction See Footnote 2.	LF	1,382	$62.50(2)	$ 86,375.00(2)
11	02221	Remove/Dispose Misc. Concrete	CY	10		
12	01270	Remove and Dispose of 10' concrete fence	LF	23		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
13	01270	Solid Shoring for CWA Flow Control Vault CWA-B FCV Construction, left in place	LF	87		
14	01270	Soldier Piling and Timber Lagging Shoring for City Flow Control Vault COH-B FCV 1 Construction, left in place	LF	48		
15	02260	Trench Safety System for Trench Excavations	LF	1,382		
16	02921	Hydro-mulch Seeding	AC	1.2		
17	02922	Sodding	SY	186		
18	01270	Remove and Replace Loop Detector/Sensor Box	LF	100		
19	01270	Remove and Re-install Card Reader and Bollard Cage including 4-6” Bollards	LS	1		
20	02821	Remove and Dispose 6' Chain Link Fence	LF	30		
21	02821	6’ Chain Link Fence	LF	30		
22	02821	Remove and Store Existing 8’ WireWall Security Fence Gate	LF	20		
23	02821	Modify and Reinstall 8’ WireWall Security Fence Gate	LF	26		
24	02821	Install Temporary 8' Chain Link Security Fence w/Gates	LF	265		
25	02821	Remove Temporary 8' Chain Link Security Fence w/Gates	LF	265		
26	01270	10’ concrete fence including foundation	LF	125		
27	15700	2 ½ inch steel gas line	LF	211		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
28	15700	Remove and dispose of 2 ½" steel gas line	LF	202		
29	01270	Demolition of Chemical Feed Piping at LLPS #2	LS	1		
30	01270	Chemical feed piping adjustment at LLPS #2	LS	1		
31	01270	Remove and Dispose Abandoned Overhead Electrical/ Communication Poles and Cables	EA	6		
32	01110	Remove and Relocate Security System Duct Bank	LS	1		
WATER						
33	01270	Temporary Support Existing 2-inch to 20-inch Pipelines during Construction	EA	14		
34	01270	Temporary Support Existing 24-inch to 30-inch Pipelines during Construction	EA	4		
35	01270	Temporary Support Existing Electrical/ Communication Conduit/Duct Bank during Construction	EA	10		
36	01270	Temporary Support Existing Concrete Utility Trench Box	EA	2		
37	01270	Pipe support structures for 42-inch above grade piping at LLPS #1	LS	1		
38	01270	Temporary Stop Gate for LLPS # 1	LS	1		
39	13121	Remove Exist. 54-inch Sluice Gate and Install new 54-inch Sluice Gate in LLPS 1 Box for 54-inch Gravity Raw Water Lines	EA	2		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
40	13121	54-inch Sluice Gate in LLPS 2 Box for 54-inch Gravity Raw Water Line	EA	2		
41	01270	Pipe support structures for 60-inch and 48-inch above grade piping at LLPS #2	LS	1		
42	01270	42-inch connection to box at LLPS #1	EA	1		
43	01270	48-inch connection to box at LLPS #2	EA	2		
44	02082	Water Line Access Manhole	EA	6		
45	02511	84-inch diameter water line by open-cut	LF	35		
46	02511	60-inch diameter water line by open-cut	LF	520		
47	02511	54-inch diameter water line by open-cut	LF	70		
48	02511	48-inch diameter water line by open-cut	LF	430		
49	02511	42-inch diameter water line by open-cut	LF	202		
50	02511	36-inch diameter water line by open-cut	LF	28		
51	01270	60-inch diameter above grade steel water line	LF	50		
52	01270	48-inch diameter above grade steel water line	LF	20		
53	01270	42-inch diameter above grade steel water line	LF	88		
54	01270	36-inch diameter above grade steel water line	LF	5		
55	02511	Remove 84-inch internal elliptical or dished head plug	EA	1		
56	02511	Remove 60-inch internal elliptical dished head plug	EA	1		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
57	01270	Remove and Salvage Exist. 36-inch butterfly valve and blind flange at LLPS #1	EA	1		
58	02511	Drainline Valve with service manhole	EA	1		
59	02517	60-inch diameter water line in tunnel	LF	35		
60	02517	48-inch diameter water line in tunnel	LF	90		
61	01270	Cut in 60-inch diameter butterfly valve on exist. above grade 60-inch water line, complete in place	LS	1		
62	02522	54-inch diameter butterfly valve	EA	2		
63	02522	48-inch diameter butterfly valve	EA	3		
64	02522	42-inch diameter butterfly valve	EA	2		
65	02522	36-inch diameter butterfly valve	EA	2		
66	01270	Remove and replace 36-inch diameter butterfly valve at LLPS #2	EA	2		
67	02522	48-inch diameter butterfly valve above grade	EA	2		
68	02522	42-inch diameter butterfly valve above grade	EA	2		
69	02522	36-inch diameter butterfly valve above grade	EA	1		
70	02524	2-inch Air Release Valve on above grade piping	EA	2		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
71	01270	Insertion Type Flow Meter on existing 60-inch water line access manway	EA	1		
72	01270	Remove and replace 2-inch air release valve on filter backwash header	EA	3		
73	16640	Cathodic protection system	LS	1		
STORM						
74	02082	Type C Manhole for 42-inch and smaller sewers	EA	3		
75	02221	Remove and Dispose 8-inch Diameter Storm Sewer	LF	20		
76	02221	Remove and Dispose 15-inch Diameter Storm Sewer or Culvert Pipe	LF	42		
77	02221	Remove/Dispose 18-inch Storm Pipe	LF	165		
78	02221	Remove/Dispose Inlets, all sizes/depth	EA	4		
79	01270	Cut and plug 18-inch storm sewer	EA	1		
80	02631	8-inch Diameter RCP Storm Sewer by Open-Cut	LF	20		
81	02631	10-inch Diameter DIP Storm Sewer by Open-Cut	LF	10		
82	02631	10-inch Diameter DIP Storm Sewer by Auger	LF	25		
83	02631	15-inch Diameter RCP Storm Sewer by Open-Cut	LF	42		
84	02631	18-inch Diameter RCP Storm Sewer by Open-Cut	LF	162		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
85	02633	Type A grate inlet	EA	1		
86	02633	Type BB Inlet	EA	2		
PAVING						
87	01270	Remove and dispose of concrete curb	LF	70		
88	02221	Removing and disposing of concrete pavements (including all thickness, w/ or w/o asphalt, including base & subgrade, w/ or w/o curb, all depths)	SY	2,130		
89	02336	Lime Stabilized Subgrade, 8-inch thick	SY	2,210		
90	02336	Lime for Lime Stabilized Subgrade (Dry Weight)	TON	56		
91	02741	Temporary Asphalt Concrete Pavement for detour/ Roadway and shoulder	SY	470		
92	02751	Reinforced Concrete Pavement 8-inch Thick	SY	2,130		
93	02752	Street Pavement Expansion Joint with Load Transfer	LF	295		
94	02752	Horizontal Dowels, 24-inch	EA	904		
95	02771	6-inch Concrete curb (Monolithic)	LF	210		
CWA-B FCV						
96	01270	Vault Structure (CWA-B FCV)	LS	1		
97	02511	54-inch diameter steel header pipe in vault (CWA-B FCV)	LF	21		
98	02511	48-inch diameter steel water line in vault (CWA-B FCV)	LF	6		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
99	02511	42-inch diameter steel water line in vault (CWA-B FCV)	LF	70		
100	02511	8-inch drainline valve (CWA-B FCV)	EA	2		
101	02522	42-inch diameter butterfly valve (CWA-B FCV)	EA	2		
102	02524	8-inch combination air valve (CWA-B FCV)	EA	2		
103	01270	Insertion Type Flow Meter for 42-inch diameter water line (CWA-B FCV)	EA	2		
104	01270	Pressure Transmitter (CWA-B FCV)	EA	4		
105	15145	36-inch diameter ball valve w/ electric actuator (CWA-B FCV)	EA	2		
106	01270	Duplex Sump Pump System (CWA-B FCV)	LS	1		
COH-B FCV						
107	01270	Vault Structure (COH-B FCV)	LS	1		
108	02511	48-inch diameter steel water line in vault (COH-B FCV)	LF	30		
109	02511	8-inch drainline valve (COH-B FCV)	EA	1		
110	02524	8-inch combination air valve (COH-B FCV)	EA	1		
111	01270	Insertion Type Flow Meter for 48-inch diameter water line (COH-B FCV)	EA	1		
112	01270	Pressure Transmitter (COH-B FCV)	EA	1		
113	15145	48-inch diameter ball valve w/electro hydraulic actuator (COH-B FCV)	EA	1		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
114	01270	Simplex Sump Pump System (COH-B FCV)	LS	1		
COH-C FCV #1						
115	01270	Vault Structure (COH-C FCV #1)	LS	1		
116	02511	36-inch diameter steel water line in vault (COH-C FCV #1)	LF	24		
117	02511	8-inch drainline valve (COH-C FCV #1)	EA	1		
118	02524	8-inch combination air valve (COH-C FCV #1)	EA	1		
119	01270	Insertion Type Flow Meter for 36-inch diameter water line (COH-C FCV #1)	EA	1		
120	01270	Pressure Transmitter (COH-C FCV #1)	EA	1		
121	15145	36-inch diameter ball valve w/electro hydraulic actuator (COH-C FCV #1)	EA	1		
122	01270	Simplex Sump Pump System (COH-C FCV #1)	LS	1		
COH-C FCV #2						
123	01270	Vault Structure (COH-C FCV #2)	LS	1		
124	02511	54-inch diameter steel water line in vault (COH-C FCV #2)	LF	30		
125	02511	8-inch drainline valve (COH-C FCV #2)	EA	1		
126	02524	8-inch combination air valve (COH-C FCV #2)	EA	1		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
127	01270	Insertion Type Flow Meter for 54-inch diameter water line (COH-C FCV #2)	EA	1		
128	01270	Pressure Transmitter (COH-C FCV #2)	EA	1		
129	15145	54-inch diameter ball valve w/electro hydraulic actuator (COH-C FCV #2)	EA	1		
130	01270	Simplex Sump Pump System (COH-C FCV #2)	LS	1		
CONTROL BUILDINGS AND SITE ELECTRICAL AND SCADA						
131	01270	Control Building CB-1	LS	1		
132	01270	Control Building CB-2	LS	1		
133	01270	Site Electrical and SCADA	LS	1		

REST OF PAGE INTENTIONALLY LEFT BLANK

C. EXTRA UNIT PRICE TABLE:

Item No.	Spec Ref.	Extra Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
134	02317	6" Over excavate Trench Bottom See Footnote 2.	LF	500	$5.00(2)	$2,500.00(2)
135	02317	Excavation Around Obstructions See Footnote 2.	CY	400	$18.75(2)	$7,500.00(2)
136	02317	Extra Hand Excavation See Footnote 2.	CY	100	$25.00(2)	$2,500.00(2)
137	02317	Extra Machine Excavation See Footnote 2.	CY	300	$18.75(2)	$5,625.00(2)
138	02317	Extra Placement of Backfill Material See Footnote 2.	CY	600	$18.75(2)	$11,250.00(2)
139	02511	Extra 36-inch Diameter thru 60-inch Diameter Steel Closure Piece See Footnote 2.	EA	6	$2,500.00(2)	$15,000.00(2)
140	02511	Extra 36-inch Diameter thru 60-inch Diameter Water Steel fittings in Place	EA	6	$5,000.00(2)	$30,000.00(2)
141	01270	Demobilization / Remobilization See Footnote 2.	EA	3	$15,000.00(2)	$45,000.00(2)
142	01270	Temporary Above Grade 6-inch Force Main See Footnote 2.	LF	25	$150.00(2)	$3,750.00(2)
143	02221	Remove and Dispose of Exist. Abandoned 42-inch, 48-inch, and 60-inch Water Line	LF	255	$50.00(2)	$12,750.00(2)
144	01270	Relocate exist. electrical conduits at LLPS #2 at NW Piling for Support Structure	LS	1	$3,000.00(2)	$3,000.00(2)
TOTAL EXTRA UNIT PRICES						**$138,875.00**(2)

D. CASH ALLOWANCE TABLE:

Item No.	Spec Ref.	Cash Allowance Short Title	Cash Allowance in figures (1)
145	01110	City of Galena Park Work Permit See Footnote 1.	$75,000.00
146	13446	SCADA Software Engineering for CWA See Footnote 1.	$150,000.00
147	01110	Security Guard at Temporary Security Fence/Gate See Footnote 1.	$100,000.00
148	01110	Power Pole w/Guy Wires or Guy Wires Relocation See Footnote 1.	$5,000.00
TOTAL CASH ALLOWANCES			$330,000.00

REST OF PAGE INTENTIONALLY LEFT BLANK

E. ALTERNATES TABLE:

Item No.	Spec Ref.	Alternate Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total Price for Alternate in figures
		N/A				
TOTAL ALTERNATES						$_____

REST OF PAGE INTENTIONALLY LEFT BLANK

F. TOTAL BID PRICE: **$**_____
(Add Totals for Stipulated Price, Base Unit Price, Extra Unit Price, Cash Allowance, and All Alternates, if any)

2.0 SIGNATURES: By signing this Document, I agree that I have received and reviewed all Addenda and considered all costs associated with the Addenda in calculating the Total Bid Price.

Bidder: _____
(Print or type full name of your proprietorship, partnership, corporation, or joint venture.*)

**By: _____
Signature Date

Name: _____
(Print or type name) Title

Address: _____
(Mailing)

_____
(Street, if different)

Telephone and Fax Number: _____
(Print or type numbers)

* If Bid is a joint venture, add additional Bid Form signature sheets for each member of the joint venture.

** Bidder certifies that the only person or parties interested in this offer as principals are those named above. Bidder has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding.

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

Footnotes for Tables B through E:
(1) Fixed Unit Price determined prior to Bid. Cannot be adjusted by the Bidder.
(2) Minimum Bid Price determined prior to Bid. Can be increased by the Bidder, but not decreased, by crossing out the Minimum and inserting revised price on the line above. **Cannot** be decreased by the Bidder.
(3) Maximum Bid Price determined prior to Bid. Can be decreased by the BIdder, but not increased, by crossing out the Maximum and inserting revised price on the line above. A Bid that increases the Maximum Bid Price may be found non-conforming and non-responsive. **Cannot** be increased by the Bidder.
(4) Fixed Range Bid Price determined prior to Bid. Unit Price can be adjusted by Bidder to any amount within the range defined by crossing out prices noted and noting revised price on the line above.

Document 00520

AGREEMENT

Project: Low Lift Pump Station (LLPS) Direct Connection and Pressure Regulating Station (PRS) at East Water Purification Plant (EWPP)

Project Location: East Water Purification Plant, 2300 Federal Road, City of Galena Park(Key Map No. 496 U & Y)

Project No: WBS No. S-000902-0133-4

The City: THE CITY OF HOUSTON, 900 Bagby Street, Houston, Texas 77002 (the "City")

and

Contractor: _____

(Address for Written Notice) _____

_____

_____

Fax Number: _____ **Phone Number:** _____

City Engineer, with respect to Sections 4.3 thru 4.5 of the General Conditions, is:

J. Timothy Lincoln, P.E. (or his successor)

P. O. Box 1562, Houston, Texas 77251-1562 (Address for Written Notice)

City Engineer, with respect to all other terms of the General Conditions, is:

Joseph T. Myers, P.E. (or his successor)

Fax Number: (832) 395-2410

THE CITY AND CONTRACTOR AGREE AS FOLLOWS:

ARTICLE 1
THE WORK OF THE CONTRACT

1.1 Contractor shall perform the Work in accordance with the Contract.

ARTICLE 2
CONTRACT TIME

2.1 Contractor shall achieve Date of Substantial Completion within **720** days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

2.2 The Parties recognize that time is of the essence for this Agreement and that the City will suffer financial loss if the Work is not completed within the Contract Time. Parties also recognize delays, expense, and difficulties involved in proving in a legal or arbitration proceeding actual loss suffered by the City if the

Work is not completed on time. Accordingly, instead of requiring any such proof, the Parties agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the City the amount stipulated in Document 00800 – Supplementary Conditions, for each day beyond Contract Time.

ARTICLE 3
CONTRACT PRICE

3.1 Subject to terms of the Contract, the City will pay Contractor in current funds for Contractor's performance of the Contract, Contract Price of **$**_____ which includes Alternates, if any, accepted below.

3.2 The City accepts Alternates as follows:

****
Delete or add lines below to indicate all Alternates that were included in Request for competitive sealed proposals. Remove brackets and instructions when done. Change color of remaining text to black.
****

Alternate No. 1 [*Accepted or Not Accepted*]
Alternate No. 2 [*Accepted or Not Accepted*]
Alternate No. 3 [*Accepted or Not Accepted*]
Alternate No. 4 [*Accepted or Not Accepted*]

ARTICLE 4
PAYMENTS

4.1 The City will make progress payments to Contractor as provided below and in Conditions of the Contract.

4.2 The Period covered by each progress payment is one calendar month ending on the [___] 15th or [___] last day of the month.

4.3 The City will issue Certificates for Payment and will make progress payments on the basis of such Certificates as provided in Conditions of the Contract.

4.4 Final payment, constituting entire unpaid balance of Contract Price, will be made by the City to Contractor as provided in Conditions of the Contract.

ARTICLE 5
CONTRACTOR REPRESENTATIONS

5.1 Contractor represents:

5.1.1 Contractor has examined and carefully studied Contract documents and other related data identified in Request For or Competitive Sealed Proposals or Competitive Sealed Bids.

5.1.2 Contractor has visited the site and become familiar with and is satisfied as to general, local, and site conditions that may affect cost, progress, and performance of the Work.

5.1.3 Contractor is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work.

5.1.4 Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in Contract documents and (2) reports and drawings of a hazardous environmental condition, if any, at the site which has been identified in Contract documents.

5.1.5 Contractor has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including applying specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract to be employed by Contractor, and safety precautions and programs incident thereto

5.1.6 Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for performance of the Work at Contract Price, within Contract Time, and in accordance with the Contract.

5.1.7 Contractor is aware of general nature of work to be performed by the City and others at the site that relates to the Work as indicated in Contract documents.

5.1.8 Contractor has correlated information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract.

5.1.9 Contractor has given City Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract, and written resolution thereof by City Engineer is acceptable to Contractor.

5.1.10 Contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 6
MISCELLANEOUS PROVISIONS

6.1 The Contract may be terminated by either Party as provided in Conditions of the Contract.

6.2 The Work may be suspended by the City as provided in Conditions of the Contract.

ARTICLE 7
ENUMERATION OF CONTRACT DOCUMENTS

7.1 The following documents are incorporated into this Agreement:

7.1.1 Document 00700 - General Conditions.

7.1.2 Document 00800 - Supplementary Conditions.

7.1.3 Division 01 - General Requirements.

7.1.4 Divisions 02 through 16 of Specifications.

7.1.5 Drawings listed in Document 00015 - List of Drawings. Drawing No. _____ and bound separately.

7.1.6 Addenda [and Riders] which apply to the Contract, are as follows:

Addendum No. 1, dated None

Addendum No. 2, dated None

Addendum No. 3, dated None

Rider No. [___], dated None

7.1.7 Other documents:

	Document No.	Title
[X]	00410B	Bid Form – Part B
[X]	00470	Standard Pre-Bid Participation Plan Document
[ ]	00471	Pre-Bid Good Faith Efforts Report
[ ]	00472	Goal Deviation Request
[ ]	00500	Form of Business
[X]	00501	Resolution of Contractor (if a corporation)
[ ]	00570	Amended S/MWBE Participation Plan
[ ]	00571	Contractor's Good Faith Efforts Report
[ ]	00572	Plan Deviation Request
[ ]	00608	Contractor's Certification Regarding Non-Segregated Facilities for Project Funded by AIP Grant
[X]	00610	Performance Bond
[X]	00611	Statutory Payment Bond
[X]	00612	One-year Maintenance Bond
[X]	00613	One-year Surface Correction Bond
[X]	00620	Affidavit of Insurance (with the Certificate of Insurance attached)
[ ]	00623	Contractor's Act of Assurance (SRF Form ED-103)
[X]	00624	Affidavit of Compliance with Affirmative Action Program
[ ]	00628	Affidavit of Compliance with Disadvantaged Business Enterprise (DBE) Program for Project Funded By AIP Grant
[X]	00630	(POP-2) Certification of Compliance with Pay or Play Program
[X]	00631	(POP-3) City of Houston Pay or Play Program – List of Subcontractors
[X]	00800	Supplementary Conditions for Project CIP or AIP Funded
[ ]	00801	Supplementary Conditions for Project AIP Funded
[ ]	00802	SRF Supplementary Conditions
[X]	00805	Equal Employment Opportunity Program Requirements
[ ]	00806	EPA DBE and Wage Rate Requirements (SRF only)
[ ]	00807	Bidder/Contractor Requirements for DBE Program
[X]	00808	Minority and Women-owned Business Enterprise (MWBE) & Persons with Disabilities Business Enterprise (PDBE) Program
[ ]	00810	Federal Wage Rate - Highway
[ ]	00811	Federal Wage Rate - Building
[ ]	00812	Federal Wage Rate - Heavy
[X]	00820	Wage Rate for Engineering Construction
[ ]	00821	Wage Rate for Building Construction
[ ]	00830	Trench Safety Geotechnical Information
[X]	00840	Pay or Play Program
[ ]	00912	Rider

ARTICLE 8
SIGNATURES

8.1 This Agreement is executed in two original copies and is effective as of the date of countersignature by City Controller.

CONTRACTOR: (If Joint Venture)

By: _____ By: _____
Name: _____ Name: _____
Title: _____ Title: _____
Date: _____ Date: _____
Tax Identification Number: _____ Tax Identification Number: _____

CITY OF HOUSTON, TEXAS

APPROVED: SIGNED:

By: _____ By: _____
Director,
Department of Public Works and Engineering Mayor

COUNTERSIGNED:

ATTEST/SEAL:

By: _____ By: _____
City Secretary City Controller

Date Countersigned:

_____

8.2 This Contract and Ordinance have been reviewed as to form by the undersigned legal assistant and have been found to meet established Legal Department criteria. Legal Department has not reviewed the content of these documents.

_____ _____
Legal Assistant Date

END OF DOCUMENT

Form Number: HOU3
Edition Date: 11/01/2014

CITY OF HOUSTON CERTIFICATE OF INSURANCE

This certificate of insurance is provided for informational purposes only, and does not confer any rights or obligations other than the rights and obligations conveyed by the policies referenced on this certificate. The terms of the referenced policies control over the terms of this certificate.

Prior to the beginning of work, the vendor shall obtain the minimum insurance and endorsements specified. Authorized Representatives must complete the form providing all requested information and submit by fax, U.S. mail, or e-mail as requested by the City of Houston. The listed endorsements shall be attached to this certificate; copies of the endorsements are also acceptable. PLEASE ATTACH ALL ENDORSEMENTS TO THIS FORM, AND INCLUDE THE MATCHING POLICY NUMBER ON THE ENDORSEMENT. **Only City of Houston certificates of insurance are acceptable; representatives' certificates are not.**

Producer: [Insert name of Producer]

Street/Mailing Address: [Insert address of Producer]

City: [Insert city] State: [Insert State] Zip Code: [Zip Code]

Insured: [Insert name of the Insured]

Street/Mailing Address: [Insert mailing address of Insured]

City: [Insert city] State: [Insert State] Zip Code: [Zip Code] Phone#: [Office Phone Number]

WORKERS COMPENSATION INSURANCE COVERAGE:
Endorsed with a Waiver of Subrogation in favor of *The City of Houston.*
Waiver of Subrogation Endorsement Number: [Enter Endorsement Form No.]

Carrier Name: [Insert insurance company name] NAIC#: [Insert NAICS code]			Carrier Phone Number: [Office Phone Number]	
Address: [Insert address of insurance company]		City: [Insert city]	State: [Insert State]	Zip: [Zip Code]
Type of Insurance	Policy Number	Effective Date	Expiration Date	Limits of Liability
Workers Compensation Insurance	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	☐ W.C. Statutory Limits E.L. Each Accident $[Enter policy amount] E.L. Disease – Each Employee $[Enter policy amount]
Employers' Liability	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	E.L. Disease – Policy Limit $[Enter policy amount]

COMMERCIAL GENERAL LIABILITY INSURANCE:
Endorsed with *The City of Houston* as Additional Insured and with a Waiver of Subrogation in favor of *The City of Houston*.
Additional Insured Endorsement #: [Enter Endorsement Form No.] **Waiver of Subrogation Endorsement #:** [Enter Endorsement Form No.]

Carrier Name: [Insert insurance company name] NAIC#: [Insert NAICS code]			Carrier Phone Number: [Office Phone Number]	
Address: [Insert address of insurance company]		City: [Insert city]	State: [Insert State]	Zip: [Zip Code]
Type of Insurance	Policy Number	Effective Date	Expiration Date	Limits of Liability
Commercial General Liability Insurance *(choose one)* ☐ Claims Made ☐ Occurrence	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	Each Occurrence: $[Enter policy amount] Products/Completed Operations Aggregate $[Enter policy amount] General Aggregate $[Enter policy amount]

AUTOMOBILE LIABILITY INSURANCE:
Endorsed with *The City of Houston* as Additional Insured and with a Waiver of Subrogation in favor of *The City of Houston*.
Additional Insured Endorsement Number: [Enter Endorsement Form No.] **Waiver of Subrogation Endorsement Number:** [Enter Endorsement Form No.]

Carrier Name: [Insert insurance company name] NAIC#: [Insert NAICS code]			Carrier Phone Number: [Office Phone Number]	
Address: [Insert address of insurance company]		City: [Insert city]	State: [Insert State]	Zip: [Zip Code]
Type of Insurance	Policy Number	Effective Date	Expiration Date	Limits of Liability
☐ Any auto ☐ All Owned autos ☐ Hired Autos ☐ Scheduled Autos ☐ Non-owned Autos	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	Combined Single Limit $[Enter policy amount] Bodily Injury (per person) $[Enter policy amount] Bodily Injury (per accident) $[Enter policy amount] Property Damage (per accident) $[Enter policy amount]

OTHER INSURANCE COVERAGE: (i.e. Excess Insurance, MCS-90, OCP or other needed insurance; use 3d page for needed information)

Carrier Name: [Insert insurance company name] NAIC#: [Insert NAICS code]			Carrier Phone Number: [Office Phone Number]	
Address: [Insert address of insurance company]		City: [Insert city]	State: [Insert State]	Zip: [Zip Code]
Type of Insurance	Policy Number	Effective Date	Expiration Date	Limits of Liability
Umbrella Liability	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	$[Enter policy amount]
Pollution	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	$[Enter policy amount]
Builder's Risk	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	$[Enter policy amount]
Other [Enter Other Insurance]	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	$[Enter policy amount]
Other [Enter Other Insurance]	[Enter Policy Number]	[Enter Effective Date]	[Enter Expiration Date]	$[Enter policy amount]

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

PROJECT DESCRIPTION (Insert Project Manager Name, City Department and Mailing Address, and WBS Number, as needed)

[Insert Project Manager Name, City Department and Mailing Address, WBS Number, and Project Description]

AUTHORIZED REPRESENTATIVE CERTIFICATION
THIS IS TO CERTIFY TO THE CITY OF HOUSTON that the insurance policies above are in full force and effect.

Name of Authorized Representative: [Insert name of Authorized Representative]
Representative's Address: [Insert address of Authorized Representative]
City: [Insert city] State: [Insert State] Zip: [Zip Code]
Authorized Representative's Phone Number (including Area Code): [Authorized Representative's Office Phone Number]
Signature of Authorized Representative X
Date [Date of Signature]

Form Number: HOU3
Edition Date: 11/01/2014

Additional Notes:

<u>WORKERS COMPENSATION INSURANCE COVERAGE (e.g., limits, self-insured retention, deductibles)</u>

____
____
____
____
As applicable: Self-Insured Retention: ____________ Deductible: ____________

<u>COMMERCIAL GENERAL LIABILITY INSURANCE (e.g., limits, self-insured retention, deductibles)</u>

____
____
____
____
As applicable: Self-Insured Retention: ____________ Deductible: ____________

<u>AUTOMOBILE LIABILITY INSURANCE (e.g., limits, self-insured retention, deductibles)</u>

____
____
____
____
As applicable: Self-Insured Retention: ____________ Deductible: ____________

<u>OTHER INSURANCE COVERAGE (e.g., limits, self-insured retention, deductibles)</u>

____
____
____
____
As applicable: Self-Insured Retention: ____________ Deductible: ____________

Additional Carrier Information (if multiple carriers providing insurance)
Carrier Name: [Insert insurance company name]
NAIC#: [Insert NAICS code]
Carrier Phone Number: [Insert Office Phone Number]
Type of Insurance: [Insert specific type of insurance]
Policy #: [Enter Policy Number]
Limits of Liability: $<u>[Enter policy amount]</u>

Carrier Name: [Insert insurance company name]
NAIC#: [Insert NAICS code]
Carrier Phone Number: [Insert Office Phone Number]
Type of Insurance: [Insert specific type of insurance]
Policy #: [Enter Policy Number]
Limits of Liability: $<u>[Enter policy amount]</u>

Carrier Name: [Insert insurance company name]
NAIC#: [Insert NAICS code]
Carrier Phone Number: [Insert Office Phone Number]
Type of Insurance: [Insert specific type of insurance]
Policy #: [Enter Policy Number]
Limits of Liability: $<u>[Enter policy amount]</u>

Document 00624

AFFIDAVIT OF COMPLIANCE WITH
AFFIRMATIVE ACTION PROGRAM

BEFORE ME, the undersigned authority, on this day personally appeared

_____, who
Affiant

being by me duly sworn on his oath stated that he is _____, of
Title

_____,
Contractor's Company Name

the Contractor named and referred to within the Contract documents; that he is fully competent and authorized to give this affidavit and that the attached original insurance certificate truly and accurately reflects the insurance coverage that is now available and will be available during the term of the Contract.

_____
Affiant's Signature

SWORN AND SUBSCRIBED before me on _____.
Date

_____
Notary Public in and for the State of TEXAS

_____
Print or type Notary Public name

My Commission Expires: _____
Expiration Date

END OF DOCUMENT

Section 01110
SUMMARY OF WORK

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Summary of the Work including Work by the City, City-furnished Products, Work sequence, future Work, and Contractor use of Premises.

1.02 PROJECT DESCRIPTION

A. Surface Water Transmission Program (SWTP) consists of major improvements to transmission system to convert from primarily groundwater to surface water in order to comply with the Harris-Galveston Coastal Subsidence District's (HGCSD) regulatory plan. Program includes transmission and distribution of surface water and associated consolidation of groundwater plants in the City.

B. The project consists of sections of 36-inch, 42-inch, 48-inch, 54-inch, 60-inch and 84-inch water line for transporting raw water from the Coastal Water Authority's (CWA) "B" and "C" Lines to the Low Lift Pump Stations (LLPSs) at Plants 1 & 2 at the East Water Purification Plant (EWPP). The project includes concrete vaults with flow control valves for both the City and CWA; direct connection piping to each LLPS discharge box; two prefabricated concrete buildings; and electrical, SCADA, and instrumentation improvements. Project limits extend from the southern end of the EWPP to approximately 40 feet north of LLPS No. 2 at Plant 2.

C. This project, in combination with WBS No. S-000902-0132-4 [84-inch Water Line Interconnection at East Water Purification Plant (EWPP)], will provide the following benefits to the City:

1. Transport extra available flow capacity from CWA's "C" System to Plants 1 and 2 through an 84-inch pipeline with connections to the LLPSs, which will reduce operational costs by eliminate the need for on-site storage and maintenance of the forebays.

2. Establish one source of raw water supply (i.e., Trinity River Water pumped from CWA's Lynchburg Pump Station) which will provide a higher quality raw water that will reduce operational costs by requiring less chemicals for treatment and generating lower quantities of treatment waste.

3. Take advantage of pre-treatment chlorine credits as a result of CWA's chloramination feeds to the raw water at the Lynchburg Pump Station which will reduce operational costs by requiring less chemicals for treatment.

4. Eliminate mixing Lake Houston water (from the West Canal) with Trinity River water (from CWA's "C" Line) and using the forebays at Plants 1 and 2 and Plant 3. Lake Houston water and the forebays can serve as emergency back-ups for source and storage.

5. Take advantage of residual pressure at end of "C" Line to transport raw water to the LLPSs at Plants 1 and 2. This will reduce operational costs by eliminate the need for pumping raw water from the forebay into Plants 1 and 2.

1.03 WORK COVERED BY CONTRACT DOCUMENTS

The work includes, but is not limited to, the following:

A. Construction of approximately 35 LF of 84-inch water line, 565 LF of 60-inch water line, 35 LF of 60-Inch water line in tunnel, 70 LF 54-inch water line, 482 LF of 48-inch water line, 58 LF of 48-inch water line in tunnel, 318 LF of 42-inch water line, and 5 LF of 36-inch water line by combination of open cut, tunneling, and above grade installation, including valves, connections and appurtenances along the proposed alignment between the existing City 60-inch water line connection and LLPS No. 2 at Plant 2.

B. Construction of four below grade concrete vaults. Two vaults will contain City flow control valves (COH-C FCV #1 and COH-C FCV #2) to regulate flow from the CWA "C" Line (WBS No. S-000902-0132-4, Proposed 84-inch Interconnection at EWPP) into the LLPSs at Plants 1 and 2. One vault will contain two CWA flow control valves (CWA-B FCV) and flow meters, to regulate and monitor flow from the CWA "B" Line (through the City's existing 60-inch raw water line) into the LLPSs at Plants 1 and 2. One vault will be installed immediately downstream of the CWA flow control valves and will contain a City flow control valve (COH-B FCV #1) and flow meter to regulate and monitor flow from the CWA "B" Line (through the City's existing 60-inch raw water line) into the LLPSs at Plants 1 and 2.

C. Connections to the LLPSs at Plants 1 and 2. Two connections will be made to the discharge box of LLPS No. 2 at Plant 2 from 48-inch water

lines served by the CWA "C" Line and the proposed 84-inch Interconnection. One connection will be made to the discharge box of LLPS No. 1 at Plant 1 from a 42-inch line being served by the CWA "C" Line. Two connections will be made to the discharge box of LLPS No. 1 at Plant 1 by 42-inch lines being served by the CWA "B" Line.

D. Construction of two prefabricated concrete buildings (sizes as indicated on drawings) that will house power, communications and instrumentation equipment. Connections to the City's SCADA system will be "hard wired" with fiber optic cable. Connection to CWA's SCADA system will be through radio signal and networking to system via CWA Building at Plant 3.

E. Construction of a 60-inch butterfly valve with electric actuator, insertion flow meter, and pressure transmitter on the City's existing 60-inch water line to measure, monitor and control flow from the 60-inch line into the forebay for Plants 1 and 2.

F. Relocation of existing utilities, including but not limited to, electrical/communications duct bank, 2 ½" and 3" gas lines, and various stormwater sewers.

G. Removal of abandoned overhead security system utility lines and wood poles that are no longer in service.

H. SCADA software programming at the East Water Purification Plant and at CWA's Lynchburg Pump Station. See Sections 13445 and 13446 for details.

I. Removal and replacement of air release valves along filter backwash header lines for Plants 1 and 2.

1.04 DEFINITIONS

A. Large Diameter Water Lines: Water Lines 24-inches in diameter and larger. References to large diameter water lines shall apply to pipe, valves and appurtenances 24-inch and larger.

B. Small Diameter Water Lines: Water Lines 20-inches in diameter and smaller. Unless otherwise noted in the Contract Documents, requirements pertaining to large diameter water lines do not apply to pipe, valves and appurtenances 20-inches in diameter and smaller.

1.05 CASH ALLOWANCES

A. Include the following specific Cash Allowances in the Contract Price

under provision of Document 00700 - General Conditions, Paragraph 3.11.

1. City of Galena Park, Work Permit: Allow stipulated sum of $75,000 for the cost of work permits as required by City of Galena Park within the limits of proposed work. Obtain all the permits required by City of Galena Park for proposed work in the Project. Contact Ms. Sheila Hilton, City of Galena Park, 2000 Clinton Dr., Galena Park, TX 77547-0046, Tel. (713) 672-2556 Ext. 307, e-mail: sheilah@cityofgalenapark-tx.gov.

2. SCADA Software Engineering for CWA: Allow stipulated sum of $150,000 for the cost of work for hardware, software and programming to incorporate CWA designated instruments and control equipment into CWA's SCADA system, on site at EWPP and at CWA's Lynchburg Pump Station. Refer to Paragraph 1.09 T.

3. Security Guard at Temporary Security Fence/Gate: Allow stipulated sum of $100,000 for the cost to provide a full-time security guard to monitor and control temporary security gates located off Clinton Drive, south of the existing floodwall gates. Provide security guard from the following vendor:

   G4S Security
   10777 Northwest Freeway, Suite 500
   Houston, TX 77092
   Tel. (713) 621-6672
   e-mail: hou_info@usa.gs4.com.

4. Power Pole w/Guy Wires or Guy Wires Relocation: Allow stipulated sum of $5,000.00 for the costs of relocating power pole and guy wire at approximate STA 3+00, 36' RT, or relocating guy wire and re-bracing pole as may be required. Coordinate with Centerpoint Energy as necessary.

1.06 INCENTIVE ALLOWANCES (Not Used)

1.07 CITY FURNISHED PRODUCTS

A. Item Furnished by City for Installation and Final Connection by Contractor:

1. None

1.08 WORK SEQUENCE

A. Contractor personnel must comply with requirements of Section 01560 – SITE SECURITY prior to requesting access to EWPP.

B. Obtain City of Galena Park Work Permit.

C. Temporary Security Fence with Gates: Install temporary security fence and access gates along Clinton Drive, as indicated on the drawings, and provide security guard to monitor temporary security fencing and control temporary access gates during work hours. Refer to details on drawings for security fence. Security fence gates shall match configuration of existing gate (20 feet wide and swing outward) located at approximately STA 2+80. Coordinate with EWPP Contact Personnel to schedule opening floodwall vehicle access gate at West Street (EWPP site) and Clinton Drive.

D. Remove and salvage existing "WireWall" security fence gate at approx. STA 2+83. Store salvaged fence gate until time for reinstallation. Modify width of salvaged fence gate to 26 LF. Reinstall modified fence gate at location shown on the drawings (approx. STA 3+78).

E. Perform critical locates per Contract Drawings within 120 days from Notice to Proceed. Perform critical locates at LLPS #2 for piping support structure before any others shown on the Drawings. Field verify dimensions and conditions before commencing work. Report any discrepancies to Project Manager before commencing work. Submit documentation of work completion to Project Manager. **NOTE**: Results of critical locates at LLPS #2 for piping support structure may require relocating existing electrical conduits at northwest piling.

F. Due to overall project complexity and numerous active utility interface requirements, submit a sequence of construction for review by Project Manager. Proposed sequence of construction shall address proposed method and timing of major construction activities. Refer to Section 01326 – Construction Schedule (Bar Chart) for specific details.

G. Sequence of construction plan shall address schedules for work at the LLPSs. In particular, the estimated temporary full shutdowns and partial shutdowns for each LLPS shall be identified. Actual shutdown dates and times for each LLPS shall be coordinated and scheduled with EWPP personnel. Deviations in the approved construction schedule and sequence of work must be submitted and approved by Project Manager prior to implementation or starting of the work.

H. Removal and Replacement of 54-inch Sluice Gates at LLPS #1. Remove existing 54-inch sluice gates and actuators at LLPS #1 and perform inspection of mounting configurations. See Paragraph 1.09 and APPENDIX E for more information and work requirements.

I. Begin Work at the southern end of the project limits at the connection to the City's existing 60-inch water line and work northward towards LLPSs and the connection to the 84-inch interconnection pipeline (WBS No. S-000902-0132-4). Refer to work sequencing below. Work sequencing for electrical, SCADA, and removal and replacement of air release valves shall be determined by the contractor.

1. Perform the following work items concurrently:

   a. Remove the existing 54-inch sluice gates and actuators at LLPS #1. Perform inspection and sluice gate design services. Submit shop drawing for approval. After approval of shop drawing, authorize fabrication of new sluice gates based on results. Install new sluice gates and actuators when delivered to project site. NOTE: New sluice gates are needed to isolate LLPS discharge chamber for partial shutdown of LLPS to install direct connection piping.

   b. After approval of shop drawing, authorize fabrication of new 54-inch sluice gates and actuators for LLPS #2. Install new sluice gates and actuators when delivered to project site. NOTE: New sluice gates and actuators are needed to isolate LLPS discharge chamber for partial shutdown of LLPS to install direct connection piping

   c. Install new insertion flow meter, and cut in new 60-inch butterfly valve with electric actuator on existing 60-inch raw water line. Install pressure gage and connect to 60-inch pipe. Install electric conduits to valve actuator, pressure gage, and flow meter. Contractor shall provide a dedicated work crew to complete this work and test the equipment within the first 45 days of the contract to allow the City to place the 60-inch line in service.

2. Relocate existing security system ductbank to eliminate conflict with piping and CWA Vault. Refer to Paragraph 1.09 H.

3. Relocate existing 2 ½-inch gas main to eliminate conflict with CWA Vault. Remove 2 ½ inch steel gas main and install new

relocated 2 ½ inch steel gas main as shown on the Drawings. Install and test piping in accordance with Section 15700 prior to placing line in service.

4. Remove and dispose of abandoned overhead security cables and poles. See Sheet 48, Notes 11 and 12. Before proceeding with this work, confirm with EWPP contact personnel or City's Project Manager if first two poles south of LLPS #1 can be removed or if they need to remain to provide security lighting in the area. Notify City's project inspector of confirmation and proceed with work accordingly.

5. If encountered during excavations, remove and dispose of abandoned 60-inch, 48-inch or 42-inch water line to allow construction of the new vaults and new piping between STA 2+10 and STA 4+50. Install concrete plugs in the ends of the abandoned pipe remaining in place. Payment for this work shall be made through the designated Extra Unit Price item.

6. Construct connection to the City's existing 60-inch line, and piping and vaults between connection to 60-inch line and LLPS #1. Connection to existing 60-inch line is at existing 60-inch stub out with blind flange. Refer to record drawing of 60-inch line in Appendix A.

7. Construct Control Building CB-1 and associated appurtenances including sample and drain lines, instruments, electrical and SCADA, and radio antenna.

8. LLPS #1:

    a. Remove and replace 54-inch sluice gates and actuators. Schedule temporary shutdown of LLPS #1 during low demand months of November through March. See Paragraph 1.09 for more information.

    b. Isolate LLPS #1 discharge chambers. See Paragraph 1.09 Coordination of Work for more information. Schedule isolation and construction of direct connections during the low demand months of November through March.

    c. Construct the piping and connections to the existing 36-inch and 42-inch piping. Refer to Sheet 18. The concrete pit area contains large amounts of overgrown weeds and vegetation that needs to be removed to install new piping and supports and connections to existing piping. The

existing pump discharge pipes that connect to the 36-inch header are leaking into the concrete pit area. The concrete pit area shall be dewatered and maintained suitably dry during the installation of the new piping and supports that extend through the concrete pit area. The costs for removal of vegetation and dewatering and maintaining the concrete pit area shall be incidental to the bid items for installation of the direct connection piping.

d. Construct the direct connection piping and 42-inch connection at the discharge box wall at LLPS #1.

9. LLPS #2:

a. Relocate existing 3-inch gas main to eliminate conflict with City's Vault COH-C FCV#2.

b. Relocate storm sewers and divert drains from LLPS #2 prior to constructing direct connection piping to LLPS #2 or COH-C FCV#2.

c. Remove and replace 36-inch butterfly valves inside each discharge chamber. Schedule temporary shutdown of LLPS #2 to minimize impacts to plant operations. Schedule temporary shutdown of LLPS #2 during low demand period of November through March. See Paragraph 1.09 for more information.

d. Install 54-inch sluice gates and actuators. Schedule temporary shutdown of LLPS #2 during low demand months of November through March. See Paragraph 1.09 for more information.

e. Isolate LLPS #2 discharge chamber. See Paragraph 1.09 Coordination of Work, for more information. Schedule isolation and construction of direct connections during the low demand months of November through March.

f. Construct piping downstream of COH-C FCV#2, including tunnel beneath existing 54-inch gravity discharge lines from LLPS.

g. Remove and adjust chemical feed piping at the face of LLPS #2 prior to constructing structural supports for direct connection piping to LLPS #2. Provide minimum 48-hour advanced notice. Unless otherwise approved, schedule

work during low demand months of November through March.

h. Construct connections at LLPS #2 wall.

i. Construct direct connection piping support structure.

j. Construct direct connection piping to LLPS #2.

10. Construct Control Building CB-2 and associated appurtenances including sample and drain lines, instruments, electrical and SCADA.

11. Restore site to include grading, pavement replacement, seeding and sodding.

12. Perform SCADA software programming. Refer to Specification Sections 13445 and 13446.

13. Remove and replace air release valves along filter backwash line for Plants 1 and 2. See Paragraph 1.09 Coordination of Work, for more information.

J. Maintain one work crew dedicated to pipe laying construction. Use additional work crews for construction of the concrete vaults, control buildings and pipe supports and connections at LLPS #1 and LLPS #2.

K. After installing new sluice gates and stop gate at LLPS #1 and new sluice gates and 36-inch butterfly valves at LLPS #2, only one LLPS shall be partially out of service at any time. Partially out of service is defined by isolating the LLPS pump discharge chambers and maintaining one chamber in service while the other chamber is dewatered for making pipe connections. Pipe connection work requiring partial shutdowns of LLPS #1 and LLPS #2 shall be completed at each LLPS before moving to the next LLPS. LLPS #2 can be shut down partially by using the new 36-inch butterfly valves between the two chambers and new sluice gates to isolate flow from one of the two chambers. Similarly, LLPS #1 can be shut down partially by using the new fabricated stop gate to isolate the two chambers and new sluice gates to isolate flow from one of the two chambers.

L. Incorporate Traffic Control Plan and Traffic Control General Notes as shown in the construction drawings in proposed sequence of work.

M. Provide temporary asphalt pavement along the alignment as shown in the drawings to facilitate traffic movement during construction.

1.09 COORDINATION OF WORK

A. Schedule the Work with any other contractors of any trade or discipline working adjacent to the project site prior to, and during construction.

B. Construction work is currently on-going for City of Houston Project WBS No. S-000056-0063-4, EWPP Sludge Management, Land Application Road Improvements and Levee Repairs at Plant 1 & 2. This project involves installing fill on the back side of the forebay levee at Plants 1 & 2 and constructing retaining walls in vicinity of LLPS #1 and #2. The project is currently scheduled for completion in May 16, 2016.

C. Schedule Work and pipeline connection with contractor performing Work for City of Houston Project WBS No. S-000902-0132-4 (Proposed 84-inch Interconnection at EWPP). This project is scheduled for completion on June 19, 2016

D. If contractor completes Work and is ready to test pipeline before completion of connecting pipeline segment at STA 13+25 (84-inch Interconnection at EWPP, WBS No. S-000902-0132-4), then provide dished head plug at end of 84-inch connection pipe. Cost for providing dished head plug is incidental to the water lines. If contractor for WBS No. S-000902-0132-4 (Proposed 84-inch Interconnection at EWPP) has completed work and has already installed connecting pipeline segment with dished head plug, then remove dished head plug and make connection to existing 84-inch water line after testing piping. Payment to be made under appropriate bid item listed in Document 00410 – Bid Form.

E. Schedule construction operations with City Project Manager, Traffic Management, Maintenance Division, and private utilities.

F. Following is a list of contacts for pipeline companies who are impacted by the Work:

1. EXPLORER PIPELINE
   Mr. Steve Power
   (832) 865-7386
   spower@expl.com

   Mr. Rick Wright
   (713) 823-2955

2. PHILLIPS 66 PIPELINE
   Mr. Todd Tullio
   (832) 765-1636

G. Coordination of the Work: Refer to Section 01312 – Coordination and Meetings.

H. Schedule testing and inspection of cathodic protection system and protective coatings for pipe, valves, and tanks with the City's independent consultant. Contact David Pedersen at 832-395-3833, david.pedersen@houstontx.gov.

I. Maintain one work crew dedicated to pipe laying construction. Use additional work crews for construction of the concrete vaults, control buildings and pipe supports and connections at LLPS #1 and LLPS #2.

J. Relocate existing security system duct bank between STA 1+40 and STA 2+82 as indicated on the Drawings. Work shall be performed by BL Technologies, contact Mr. Vince Nussbaumer, Tel. 832-698-8000, e-mail: vnussbaumer@blti.com or Mr. Eric Daniel, Tel. 832-698-8000, e-mail: edaniel@blti.com.

   1. Refer to Appendix B to this Section 01110 for copies of record drawings showing the pull boxes, conduits, conductors and cables at this location.

   2. Refer to Drawing Sheets 48 and 50 for location of proposed work.

   3. Schedule and coordinate temporary shutdown of security cameras with EWPP contact personnel. Temporary shutdown of security cameras shall not exceed 4 hours unless otherwise approved by Project Manager.

   4. Provide temporary above grade conduits and cables and conductors as necessary to maintain security cameras and communication lines in service. After installing permanent duct bank conduits, cables and conductors and making connections at pull boxes, remove temporary above grade conduits, cables and conductors.

   5. Costs for removal of existing duct bank and cabling; proposed duct bank; temporary conduits, cables and conductors, and temporary connections; routing of cables and conductors through proposed

duct bank; and permanent connections to pull boxes shall be included and paid for by the designated bid item.

K. 6-inch Force Main Operation: Installation of proposed 42-inch direct connection piping to LLPS #1 and proposed 48-inch piping in vicinity of STA 7+6.30 will require crossing a 6-inch force main that discharges into the forebay. Contractor shall protect and support existing 6-inch force main during construction and keep the line in service. Payment for this work shall be through the applicable bid item for Temporary Support of Existing 2-inch to 20-inch Pipelines. If 6-inch force main cannot be safely supported across pipe trench, contractor shall set-up above grade temporary 6-inch piping as necessary to maintain force main in service. After proposed direct connection piping is installed, contractor shall remove temporary above grade piping and reconnect 6-inch force to existing piping. Existing 6-inch force main shall not be shut down more than 4 hours without prior approval from City's Project Manager or EWPP Contact Personnel. Schedule work accordingly with EWPP Contact Personnel. Payment for this work shall be through the applicable bid item for Temporary Above Grade 6-inch Force Main. Contractor will not be paid for both temporary support of 6-inch force main and temporary above grade 6-inch force main. Prior to setting up temporary 6-inch force main, submit plan of action for approval. Plan of action shall identify proposed piping configuration and location of above grade piping, pipe materials, and duration of temporary force main arrangement. Notify Project Manager and EWPP Contact personnel at least 48 hours prior to installing temporary force main.

L. Installation of Fabricated Stop Gate at LLPS #1: Contractor shall fabricate a temporary stop gate for isolating discharge chamber into two chambers (similar to original design of LLPS). Temporary stop gate shall be designed to allow discharge chamber to be isolated (divided) such that half of the LLPS may remain in service. Temporary stop gate shall allow for dewatering either side of the divided chamber so that work for the direct connection piping can be performed. Temporary stop gate shall be fabricated to required dimensions which shall be verified in the field prior to fabrication. Stop gate wall slots are 6 inches wide and 6 inches deep based on record drawings. Stop gate dimensions are 7 feet wide (including 6 inches each end for wall slot) by 21.5 feet high based on record drawings (including 3 feet for raised walls on discharge box structure). See Appendix C for record drawings and dimensions. See details and notes on drawings.

M. Installation of New 36-inch Butterfly Valves at LLPS #2: See Appendix D for record drawings of existing 36-inch butterfly valves.

Schedule valve replacement to minimize impacts to plant operations. Duration of temporary shutdown of LLPS #2 and Plant 2 for the work shall be determined by EWPP Contact Personnel. During low demand periods (typically months of November through March), duration of temporary shutdown shall be 24 - 48 hours unless approved otherwise by EWPP Contact Personnel and Project Manager. During high demand periods, duration of temporary shutdown shall not exceed 6 hours unless approved otherwise by EWPP Contact Personnel and Project Manager. Coordinate with EWPP Contact Personnel for scheduling this work. Provide minimum 48-hour advanced request notice prior scheduled date for shutting down LLPS #2.

N. Removal of existing 54-inch Sluice Gates and Installation of new 54-inch Sluice Gates at LLPS #1:

1. See Specification Section 13121 – Flow Control Sluice Gates and Appendix E for specification requirements and details of sluice gates and installation notes. Schedule sluice gate and actuator removal and installation to minimize impacts to plant operations. Duration of temporary shutdown of LLPS #1 and Plant 1 for the work shall be determined by EWPP Contact Personnel. During low demand periods (typically months of November through March), duration of temporary shutdown shall be 24 - 48 hours unless approved otherwise by EWPP Contact Personnel and Project Manager. During high demand periods, duration of temporary shutdown shall not exceed 6 hours unless approved otherwise by EWPP Contact Personnel and Project Manager. Coordinate with EWPP Contact Personnel for scheduling this work. Provide minimum 48-hour advanced request notice prior scheduled date for shutting down LLPS #1.

2. After removal of existing sluice gates and actuators, a trained employee from the sluice gate manufacturer shall inspect the mounting configurations of sluice gates and actuators and the mounting surface inside the discharge chamber. Refer to APPENDIX E for details.

3. Costs for services of trained employee from sluice gate manufacturer, preparing designs for new sluice gates and actuators and mounting details, fabrication of new sluice gates and actuators, and delivery of these materials to the project site shall be covered by the applicable bid item for the sluice gates.

O. Installation of 54-inch Sluice Gates at LLPS #2:

1. See Specification Section 13121 – Flow Control Sluice Gates and Appendix E for specification requirements and details of sluice gates and installation notes. Schedule sluice gate installation to minimize impacts to plant operations. Duration of temporary shutdown of LLPS #2 and Plant 2 for the work shall be determined by EWPP Contact Personnel. During low demand periods (typically months of November through March), duration of temporary shutdown shall be 24 - 48 hours unless approved otherwise by EWPP Contact Personnel and Project Manager. During high demand periods, duration of temporary shutdown shall not exceed 6 hours unless approved otherwise by EWPP Contact Personnel and Project Manager. Coordinate with EWPP Contact Personnel for scheduling this work. Provide minimum 48-hour advanced request notice prior scheduled date for shutting down LLPS #2.

2. A trained employee from the sluice gate manufacturer shall inspect the mounting surface inside the discharge chamber and confirm required dimensions for sluice gates and actuators. Refer to APPENDIX E for details.

3. Costs for services of trained employee from sluice gate manufacturer, preparing designs for new sluice gates and actuators and mounting details, fabrication of new sluice gates and actuators, and delivery of these materials to the project site shall be covered by the applicable bid item for the sluice gates.

P. Isolation of LLPS Discharge Chambers for Construction of Direct Connections:

1. LLPS #1: Isolate discharge chamber into two chambers with fabricated temporary stop gate. Temporary stop gate shall be inserted into existing wall slots of discharge chamber to divide the chamber into two chambers.

2. LLPS #1: Utilize existing 54-inch sluice gates to isolate discharge chambers. It will be necessary to close one of the sluice gates and install the stop gate noted above to isolate the discharge chambers and keep “half” of the LLPS in service. Coordinate with EWPP contact personnel for scheduling closure of sluice gates.

3. LLPS #2: Isolate discharge chamber with new 36-inch butterfly valves to be installed as indicated on the Drawings and as noted above in Paragraph K.

4. LLPS #2: Isolate discharge chamber with new 54-inch sluice

gates to be installed as noted above in Paragraph J.

Q. Only one LLPS shall be partially out of service at any time. Partially out of service is defined by isolating the LLPS pump discharge chambers and maintaining one chamber in service while the other chamber is dewatered for making pipe connections. Pipe connection work requiring partial shutdowns of LLPS #1 and LLPS #2 shall be completed at each LLPS before moving to the next LLPS.

R. Incorporate Traffic Control Plan and Traffic Control General Notes as shown in the construction drawings in proposed sequence of work.

S. Provide temporary asphalt pavement along the alignment as shown in the drawings to facilitate traffic movement during construction.

T. SCADA Software Engineering for CWA: Work shall be performed by HSQ Technology (HSQ), contact Mr. James Wilkinson, Tel. (510) 259-1334, e-mail: wilkinson@hsq.com. Refer to Specification Section 13446 – SCADA SOFTWARE ENGINEERING, SECURITY AND QUALITY REQUIRMENTS (CWA).

U. Remove and Replace Air Release Valves (ARVs) on Filter Backwash Header Lines:

1. The ARVs are located inside the Filter Pipe Gallery Buildings. The ARVs are numbered consecutively starting with the southernmost ARV in Plant 1 as ARV #1 and continuing north to ARV #12 at Plant 2.

2. ARVs #1, #3, #6 and #7 - #12 have been recently replaced by others.

3. Remove and replace three existing ARVs along filter backwash line for Plant 1. The three ARVs (#2, #4, and #5) are located at Plant 1.

4. Refer to Appendix F for record drawing and photos of existing ARVs.

5. The ARVs are located along the top of 36-inch filter backwash header lines. The valves are approximately 17 feet above the FF elevation of Pipe Gallery Buildings. Scaffolding, ladders or lifts may be used as needed to access the ARVs. Note that access to work area and available work space within pipe gallery is limited.

6. Removal and replacement of ARVs includes pipe, fittings and isolation gate valves as shown on the Drawings.

7. The filter backwash lines are typically in use between the hours of 5:00PM and 7:00AM. Any work that requires shutting down the backwash header lines must be started and completed within a single daytime shift from 7AM to 5PM. Coordinate work schedule and required line shut downs with EWPP contact personnel.

8. All new pipe, fittings and valves shall be painted to match color(s) recently replaced ARVs.

1.10 CONTRACTOR USE OF PREMISES

A. Comply with procedures for access to site and Contractor's use of rights-of-way as specified in Section 01145 - Use of Premises and Section 01560 – Site Security.

B. Install temporary security fencing and gates at locations indicated on the drawings and in accordance with details shown on drawings. Provide full-time security guard to monitoring temporary security fencing and control access gates during working hours. Access gates shall be available to contractor for mobilizing equipment and materials to the site.

C. Construction Operations: Limited to the limits of construction indicated on the drawings, the City's EWPP site, and City's rights-of-way and existing easements.

D. No equipment, materials, tools, construction debris or surplus excavation shall be stored on the forebay levees at any time. This includes the grass/sod areas between retaining walls, curbs and toe of slope on the back side of the levees to the edge of water in the forebay.

E. Utility Outages and Shutdown: Provide notification to City and private utility companies (when applicable) a minimum of 48 hours, excluding weekends and holidays, in advance of required utility shutdown. Schedule all work as required. Submit for review and approval proposed plan for outages and shutdown minimum of 14 days prior to proposed scheduled outages/shutdown. Conduct coordination meeting with City and other affected parties minimum of seven (7) days prior to proposed outage/shutdown.

F. Work to be done to lines, grades, elevations, and locations as shown on Drawings.

G. Coordinate activity schedule and extend full cooperation to other contractors who have responsibilities either concurrent with, preceding, or following this Contractor's time along work site. Ensure availability of access, availability of selected portions of this area to others, and provide appropriate information for planning purposes to other contractors.

H. Traffic Control:

1. Traffic control plan responsive to Texas Manual on Uniform Traffic Control Devices (TMUTCD) and sealed by Registered Professional Engineer is incorporated into Drawings. If traffic control will be implemented without modification to plan provided, submit letter confirming that decision. If traffic control will be modified from what is shown, submit traffic control plan in conformance with TMUTCD and sealed by Registered Professional Engineer in the State of Texas.

2. Traffic Control Plan is provided for installation of water lines only. Specific traffic control plan required for pavement restoration must be provided by Contractor, sealed by Registered Professional Engineer in the State of Texas and conforming to TMUTCD. Submit traffic control plan to Project Manager for approval.

3. Traffic control provided is based on assumption there is no conflict with traffic control from separate projects within construction limits. Adjust work sequence as necessary to prevent traffic control conflicts, or submit revised traffic control plans sealed by Registered Professional Engineer in the State of Texas and conform to TMUTCD at no additional cost. Submit traffic control plan to Project Manager for approval.

4. For temporary pavement, provide necessary backfill, subgrade, base and surface in accordance with Traffic Control Plan and continuously maintain, as directed by Project Manager.

5. Do not impede flow in roadside ditches with temporary pavement.

6. Modifications to Traffic Control Plan included in Drawings, specific Traffic Control Plan for pavement restoration with drainage, and adjustment in work sequence as necessary to prevent traffic control conflicts, require a submission of revised traffic control plans sealed by Registered Professional Engineer and conform to TMUCD at no additional cost. Submit plan to Project Manager for approval.

7. Refer to Traffic Control Plan General Notes for further instructions.

I. Work which pertains to any tunneling operation may be allowed 24 hours per day, provided above ground activities do not conflict with provisions of City of Houston Code of Ordinances, Section No. 40-28, work does not occur on a Sunday or holiday, and prior written approval is obtained from EWPP designated project contact personnel. A non-inclusive list of work pertaining to tunneling operation is as follows:

1. Tunnel Excavation and incidental work such as muck removal and hauling, ventilation, lighting, survey control of tunnel line and grade, etc.
2. Tunnel Primary Liner.
3. Ground Water Control and Ground Stabilization.
4. Pipe Installation.
5. Tunnel Grouting.

J. Implement groundwater control methods, while maintaining accessibility to driveways and cross streets.

K. Maintain vehicular access through EWPP site and adjacent work areas. Provide temporary driveway access to driveways in accordance with Section 01555 – Traffic Control and Regulation and Section 01145 – Use of Premises. Coordinate with EWPP personnel.

L. City's Utility Maintenance Division or EWPP personnel are not bound to assist Contractor in locating existing utilities during construction. Contractor must verify location of existing utility lines prior to commencement of pipe laying operations.

M. Working multiple and separate crews during construction is allowed, as approved by Project Manager.

N. Field Office:

1. A Field Office is required on this project. See Section 01520 – Temporary Field Office.

O. Protect existing street lights and power poles along project limits. Support as required to accomplish Work. Re-establish power to lights within 24 hours should power be disrupted. No separate pay item.

P. <u>Recent Observations at EWPP</u>: The following observations were made on October 6, 2015.

1. At LLPS #1, in the vicinity of Panel HA (refer to Sheet 49 for location of Panel HA), a water leak has occurred as evidenced by the ponding water in the area. The source of the leak has not been determined.

2. At LLPS #1, water is leaking from the pump discharge piping (connected to 36-inch header) into the concrete pit where connections to existing piping are to be made. The water is not draining from the concrete pit. Also, the concrete pit contains vegetation and weeds that need to be removed and disposed. Contractor shall remove vegetation and weeds from concrete pit and dewater concrete pit and maintain the pit suitable dry to install new concrete pipe supports and new direct connection piping. Refer to Paragraph 1.08.H.7.c for work sequence and payment.

3. Improvements were recently made to the levees of the forebay at Plants 1 and 2. Concrete retaining walls were installed north and south of LLPS #1. These structures do not conflict with the proposed work for this project. A concrete retaining wall was installed at LLPS #2 that extends eastward from the southeast corner of the LLPS #2 discharge box. A portion of this retaining wall may need to be removed and replaced as part of the direct connection piping installation. Payment for removal and replacement of the retaining wall shall be incidental to the bid item(s) for installation of applicable direct connection piping.

4. The 8 ft. high chain link fence gate at approx. STA 2+83 was replaced with a wire-wall security gate. The wire-wall security gate shall be removed, stored and re-installed at the location shown on the drawings (approx. STA 3+78). Payment for this work shall be included in the applicable bid item.

1.11 WARRANTY

A. Comply with warranty requirements in accordance with Document 00700 General Conditions.

1.12 INTERPRETATION OF CONFLICTS

A. Should conflicts occur in Contract Documents, request interpretation before proceeding with Work. Such requests shall first be preceded by a diligent investigation into Contract Documents. Contain evidence of such investigation in requests for interpretation.

1.13 GENERAL CONSTRUCTION NOTES

A. Notify Utility Coordinating Committee at 1-800-545-6005, and City of Houston Department of Public Works and Engineering, Civil Construction via fax (832) 394-9620, at least 48 hours prior to commencement of work.

B. Field verify existing facilities shown on Drawings by whatever means necessary (metal detection, probes, excavation, survey, others) prior to excavation for proposed utilities. Field verification work and utility adjustments shall be completed prior to excavation for proposed utilities. No separate pay item.

C. These plans and surveys upon which they are based are tied into official City of Houston survey system in compliance with ordinance No. 69-1978. City of Houston survey markers and monuments referenced have been included in Drawings.

E. Comply with OSHA Regulations and State of Texas laws concerning excavation, trenching and shoring as specified in City of Houston Ordinance No. 87-1457.

F. Any pavement (such as wheel chair ramps, pavement curbs, sidewalks, driveways, bikeways, etc.), fences, gates, lawns, irrigation utilities, landscapes, culverts, inlets, manholes, signs or mail boxes and other improvements that have been disturbed due to utility construction shall be replaced with same quality material or better, according to City of Houston standard specifications. Contractors are required to bid accordingly.

1.14 EXISTING UTILITIES

A. Underground utilities exist in vicinity of this project. While every effort has been made to show locations for existing utilities, they are approximate and other utilities may exist in vicinity of this project, which are not shown on these plans. The location and grades of existing utilities are based on as-built information. Field determine location prior to commencing construction.

B. Public and private utility lines and customer service lines may exist not shown on construction drawings. Locate, maintain and protect the integrity of these lines. Hand excavation may be required. Anticipate such service lines exist and repair them if damaged during construction. No separate pay will be made for repairs.

C. Coordinate with proper utility company to relocate or divert any utility in conflict with proposed construction so as not to disrupt service of

same. Restore relocated or diverted utility to its original condition and location upon completion of construction.

D. Maintain existing water service and sanitary sewer service within construction area until construction of new system is complete.

1.15 STORM SEWER

A. Maintain adequate drainage at all times during construction and restore any drainage ditch or structure disturbed during construction to satisfaction of owning authority. Construction storm runoff shall comply with final draft of Storm Water Management Handbook for construction activities, as prepared by Harris County, HCFCD and City of Houston in compliance with NPDES requirements.

B. During any storm sewer and/or lead replacement, pull to last full joint.

C. Remove siltation in existing and proposed storm sewer systems (if necessary) that result from construction activities associated with this project.

D. Existing improvements/conditions associated with culverts, wing-walls, headwalls and other end treatments, shall be maintained, if not shown on Drawings to be removed, or replaced to equal or better conditions including quality of materials.

1.16 PAVEMENT REPLACEMENT

A. Contract Drawings identify pavement to removed and replaced.

B. Contractor's Trench Safety System (reference Section 02260), special shoring (reference Section 02317, 1.08, 3.04D, 3.05F, H & I), and means and methods shall protect adjacent lanes of pavement that are not scheduled for removal and replacement. Assume risk for damaged pavement and, unless otherwise directed by City, remove and replace damaged pavement in accordance with Section 02951 and Street Cut Ordinance at no additional cost to City. Damage includes but is not limited to pavement cracks, chipped or broken pavement, and voids under adjacent pavement that is to remain. City may also assess additional costs to Contractor related to damaged pavement such as City laboratory testing and inspection.

C. Where work requires cutting existing pavement, provide positive shoring extending minimum of 6-inches above pavement surface.

D. Unless otherwise directed by City, provide full-depth saw-cut 2-inch maximum away from pavement construction joints (ex., deformed metal joints, tooled joints, partially saw cut joints, etc.). Saw cut Minimum distance from joint necessary for clean straight edge, and if joint is at crown, saw cut as close to crown as possible.

E. Dowels at existing expansion joints shall be saw-cut to eliminate possible damage to adjacent pavement scheduled to remain. The cost for this saw cut is incidental to pavement removal and disposal pay item(s).

F. Pavement that is scheduled to be removed and replaced shall be removed no earlier than fourteen (14) days prior to excavating to install new utilities and/or pavement.

1.17 EXISTING CONCRETE PANEL FENCE

A. The existing concrete panel fence that runs parallel to Clinton Drive shall be extended as indicated on the drawings. The existing concrete panel fence consists of 10ft. high x 5 ft. wide concrete panels that have a brick texture. Each panel is supported at each end with concrete foundation as shown in photographs. Photographs of the fence are included in Appendix G to this Section 01110.

B. For replacement and new fence panels, contact Superior Concrete Products, 1203 Raider Drive, Euless, TX, 76040; Tel (817) 277-9255, or approved equal. Refer to manufacturer's typical installation details and notes shown on Drawing Sheets 1 and 2, included in Appendix G. New fence panels shall match the texture, color and trim details of existing fence (Texture: Cobblestone; Color: Taupe). Contractor shall submit detail drawings and supporting calculations for installation of concrete panel fence, which shall be prepared and sealed by a registered Professional Engineer in the State of Texas.

C. Provide fence panel samples for approval prior installation.

1.18 STORM WATER POLLUTION PREVENTION PLAN

A. Storm Water Pollution Prevention Plan for this project is governed by Section 01410 TPDES Requirements, Document 01570 "Storm Water Pollution Control" and the layouts provided in the construction drawings. Comply with Storm Water Pollution Prevention Plan as detailed in construction documents.

1.19 ADDITIONAL CONDITIONS FOR SUBSTANTIAL COMPLETION

A. In addition to requirements outlined in Document 00700 – General Conditions, for Contractor to be substantially complete with the Work and call for inspection, Project Manager to confirm following conditions have been met or completed:

1. All pay items complete.
2. All testing shall be completed and accepted by Project Manager.
3. Demonstrate the ability to receive and monitor Supervisory Control and Data Acquisition (SCADA) data from all remote sites.
4. All testing shall be completed and accepted by Project Manager.
5. All SCADA and security equipment shall be installed, accepted by manufacturer's representative and approved for operation.
6. Draft O&M Manuals shall be delivered to Project Manager.
7. Training shall be conducted utilizing draft O&M manuals.
8. All safety-related systems and equipment shall be installed, accepted by manufacturer's representative and approved for use.
9. All safety related work including pavement striping, signing, and signalization to be complete.
10. No additional condition described in Paragraph 1.21 may be included in Contractor's punch list.

1.20 PIPELINES

A. Refer to Specification Section 02317- Excavation and Backfill for Utilities for specific requirements on excavating near pipelines.

1.21 SOIL CONDITIONS & ENVIRONMENTAL SITE ASSESSMENTS (ESA)

A. Bidder(s) must consider soil conditions and ESA findings provided in Geotechnical Report, and ESA Phase I & II Reports, respectively. These reports have been provided on a CD, which is attached to the Project Manual.

1.22 POTENTIALLY PETROLEUM CONTAMINATED AREAS

A. Refer to Phase I & Phase II ESA Reports prepared by HVJ Engineering for additional information.

B. Potentially Petroleum Contaminated Areas (PPCA) are not anticipated on this project based on the results from the Phase I and Phase II ESA Reports noted above.

1.23 SAFETY SYSTEMS

A. Drawings and any attendant drawings (including shop drawings, as built drawings or record drawings), addenda, change orders and specifications, prepared by Lockwood, Andrews & Newnam, Inc., do not extend to or include designs or systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in their performance of the work. The seal of Lockwood, Andrews and Newnam's registered/licensed professional engineers hereon does not extend to any such safety systems that may now or hereafter be incorporated in these plans. Prepare or obtain appropriate safety systems, including Drawings and specifications required by House Bill 662 and 665 enacted by the Texas Legislature.

1.24 CENTERPOINT ENERGY ELECTRICAL FACILITIES

A. Overhead lines may exist on property. We have not attempted to mark those lines since they are clearly visible. All lines should be located prior to construction. Texas law, section 752, health & safety code, forbids all activities in which persons or things may come within six (6) feet of live overhead high voltage lines. Parties responsible for work, including contractors, are legally responsible for safety of construction workers under this law. This law carries both criminal and civil liability. To arrange for lines to be turned off or removed call Centerpoint Energy at (713) 207-2222.

B. Location of CenterPoint Energy electrical facilities, are approximate and have not been verified by actual field check

C. Hand dig within one (1) foot of CenterPoint Energy underground electrical facilities.

D. Overhead lines exist on and adjacent to project site, which may be live during construction period. Facilitate work so as not to interrupt services unless permitted by CenterPoint Energy.

E. Exercise caution when working in vicinity of CenterPoint Energy electrical cable, underground wiring and overhead lines.

F. When excavating within 5 feet and depth of 3 feet below existing grade of utility pole or anchor to which CenterPoint Energy facilities are attached, CenterPoint Energy will secure or brace these poles and

anchor prior to excavation. Cost of CenterPoint Energy's efforts is incidental. No separate pay item.

1.25 CENTERPOINT ENERGY UNDERGROUND GAS FACILITIES

A. Locations of Center Point Energy main lines (to include United Gas Transmission and/or Industrial Gas Supply Corporation where applicable) shown in an approximate location only. Service lines are usually shown. Contact Utility Coordinating Committee at 1-800 545-6005 a minimum of 48 hours prior to construction to have main and service lines field located.

B. When Center Point Energy pipeline markings are not visible, call (713) 207-1111 (7:00 am to 4:30 pm) for status of line location request before excavation begins.

C. When excavating within eighteen inches (18") of the indicated location of CenterPoint Energy facilities, all excavation must be accomplished using non-mechanized excavation procedures.

D. When Center Point Energy facilities are exposed, sufficient support must be provided to facilities to prevent excessive stress on the piping.

E. Contractor is responsible for any damages caused by his failure to exactly locate and preserve these underground facilities.

F. All gas facilities are the property of CenterPoint Energy, unless otherwise noted.

PART 2 PRODUCTS

2.01 TYPE OF PIPE FOR CONSTRUCTION OF WATER LINE

A. Drawings have been prepared on basis of Steel Pipe except where specific pipe material is identified. All proposed large diameter water line piping shall be Steel Pipe in accordance with Section 02518 and details shown on the drawings.

B. When adjoining proposed large diameter water line to existing large diameter water line of different pipe material and/or coating, provide a flanged connection insulating kit, and isolation test station, unless otherwise approved by Project Manager. Specifications and design criteria have been provided for these types of pipe. It is Contractor's responsibility to ensure that type of pipe selected and resulting

methods and means complies with requirements and limitations set forth herein and on Drawings including traffic control.

C. Manufacturer and subcontractor selection are within Contractor's control and will not warrant time extensions due to failure to produce required deliverables within Contract Time. Extension of Contract Time due to non-delivery of Contractor's choice of pipe material, which affects Contractor's schedule, will not be allowed. Contractor to submit pipe material and other critical submittals in a timely manner to allow sufficient review time by Project Manager and to maintain construction schedule.

E. Callouts for bends and fittings are not identified on Drawings in profile view. Provide bends and fittings as required complying with invert elevations shown in profile view of Drawings.

F. Clearly identify different pipe classes of the same pipe material using colored concrete or similar marking as approved by Project Manager.

G. Provide electrical isolation when adjoining to pipe with different material or coating. Coating on the welded restrained portions of the piping shall be identical to the coating on the adjoining pipe sections.

H. No separate payment for restrained or welded joints for large diameter water lines.

PART 3 E X E C U T I O N (Not Used)

END OF SECTION

APPENDIX E

Flow Control Sluice Gates @ LLPS #1 & #2

1. Refer to Specification Section 13121 – Flow Control Sluice Gates.

2. Sluice gates shall be installed to control flow into the 54-inch gravity lines extending from the LLPS discharges box. When closed, sluice gate shall be capable of preventing backflow into the isolated discharge chamber cell to allow for dewatering of the chamber cell for performing work or routine maintenance.

3. Refer to attached manufacturer's details and data sheets which show general configuration and specific dimensions of sluice gates. These documents are provided for information purposes only.

4. The existing sluice gates at LLPS #1 shall be removed and disposed. A trained employee from the sluice gate manufacturer shall be on-site to inspect the wall mounting configuration of the existing sluice gates and actuator pedestal mounting configuration and determine the dimensions and mounting configurations for the new sluice gates and actuator pedestals.

5. Mounting configurations for sluice gates and actuator pedestals to be installed at LLPS #1 and LLPS #2 shall be designed by the sluice gate manufacturer. Mounting configuration designs shall be sealed by a licensed Professional Engineer in the State of Texas and shall be submitted with shop drawings.

EAST WATER PURIFICATION PLANT

PLANT 2

PLANT 1

LLPS 2

LLPS 1

FEDERAL RD.

CLINTON DR.

Filter 20 12
Filter 19 11
Filter 18
Filter 17 10
Filter 16 9
Filter 15 8
Filter 14
Filter 13 7

ARV'S 7 - 12
(Replaced by Others)

Filter 12 6
Filter 11
Filter 10 5
Filter 9
Filter 8 4
Filter 7
Filter 6 3
Filter 5
Filter 4 2
Filter 3
Filter 2
Filter 1 1

ARV 6
(Replaced by Others)

REMOVE & REPLACE
ARV'S 4 & 5

ARV 3
(Replaced by Others)

REMOVE & REPLACE
ARV 2

ARV 1
(Replaced by Others)

N
W E
S

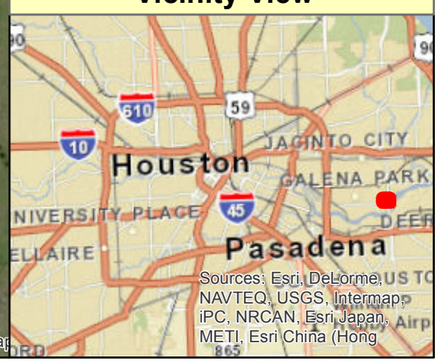
0 50 100 200
Feet

Legend

X AIR RELEASE VALVE NUMBER & LOCATION

REMOVE & REPLACE AIR RELEASE VALVES ALONG FILTER BACKWASH HEADER LINES

Vicinity View



Path: \\hou\Production\130-10557-020\9-0-Non-Projectwise_Data\9-01-GIS\MXD\ARVs at EWPP.mxd Date Saved: 2/3/2015 3:08:42 PM

Section 01270S

MEASUREMENT AND PAYMENT

The following supplements modify Section 01270 – Measurement and Payment Standard Specification. Where a portion of the Specification is modified or deleted by this Supplementary Specification, the unaltered portions of the Specification shall remain in effect.

Insert the following Paragraph 1.08:

1.08 MEASURMENT AND PAYMENT FOR PROJECT SPECIFIC ITEMS.

A. Bid Item No. 12 - Remove and Dispose of 10' concrete fence. Payment is on a unit price basis and includes labor, equipment, and materials necessary to remove and dispose of existing 10' concrete fence fencing and support posts. Refer to Section 01110 for details and additional costs to be included.

B. Bid Item No. 13 – Solid Shoring for CWA Flow Control Vault CWA-B FCV Construction, left in place. Payment is on a unit price basis and includes labor, equipment, and materials necessary to install solid shoring at location indicated. Refer to notes on drawings.

C. Bid Item No. 14 – Soldier Piling and Timber Lagging Shoring for City Flow Control Vault COH-B FCV1 Construction, left in place. Payment is on a unit price basis and includes labor, equipment, and materials necessary to install solid shoring at location indicated. Refer to notes on drawings.

D. Bid Item No. 18 - Remove and Replace Loop Detector/Sensor Box. Payment is on a unit price basis and includes labor, equipment, and materials for removing and replacing existing loop detector/sensor box at plant access gate between STA 4+65 and STA 4+72.

E. Bid Item No. 19 - Remove and Re-install Card Reader and Bollard Cage, including (4) 6-inch bollards. Payment is on a lump sum basis and includes labor, equipment, and materials for removing and re-installing card reader and bollard cage at floodwall gate (approximate STA 4+80), including conduit and conductors required for re-connecting card reader.

F. Bid Item No. 26 – 10' Concrete Fence including foundation. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing fence at locations indicated on the drawings. Installed concrete fence shall be in accordance with details included in the specifications. Refer to Section 01110 for details and additional costs to be included.

G. Bid Item No. 29 – Demolition of Chemical Feed Piping at LLPS #2. Payment is on

a lump sum basis and includes labor, equipment, and materials necessary for removing and disposing of existing chemical feed piping at LLPS #2, including pipe hangers, as shown on the drawings, and coordination with EWPP contact personnel for shutting down chemical feed piping prior to demolition.

H. Bid Item No. 30 – Chemical Feed Piping Adjustment at LLPS #2. Payment is on a lump sum basis and includes labor, equipment, and materials necessary for installing new chemical feed piping at LLPS #2 as shown on the drawings, including connections to existing piping, fittings, valves, pipe hangers, testing, and placing piping and valves in service.

I. Bid Item No. 31 – Remove and Dispose Abandoned Overhead Electrical/Communication Poles and Cables. Payment is on a unit price basis and includes labor, equipment and materials necessary to remove and dispose of existing abandoned wood poles for abandoned overhead security system as indicated on the Drawings. Includes removing and disposing of abandoned overhead cables between poles.

J. Bid Item No. 32 – Remove and Relocate Security System Ductbank. Payment is on a lump sum basis and includes labor, equipment, and materials necessary for removing and relocating security system duct bank as indicated on the drawings. Payment includes schedule coordination with City for temporary shutdown of security system and temporary cable installation to keep system in operation during construction of permanent relocated ductbank. Refer to Section 01110 for details of work.

K. Bid Item No. 33 – Temporary Support Existing 2-inch to 20-inch Pipelines during Construction. Payment is on a unit price basis and includes labor, equipment and materials for providing temporary support to existing utilities of the designated sizes that cross open cut trenching or are located within proximity of trenching operations for the proposed water lines such that temporary support is required to protect the existing utility line, whether indicated on the Drawings or not.

L. Bid Item No. 34 – Temporary Support Existing 24-inch to 30-inch Pipelines during Construction. Payment is on a unit price basis and includes labor, equipment and materials for providing temporary support to existing utilities of the designated sizes that cross open cut trenching or are located within proximity of trenching operations for the proposed water lines such that temporary support is required to protect the existing utility line, whether indicated on the Drawings or not.

M. Bid Item No. 35 – Temporary Support Existing Electrical/Communication Conduit/Duct Bank during Construction. Payment is on a unit price basis and includes labor, equipment, and materials necessary for providing temporary support to existing electrical/communication conduits/ductbanks that cross open cut trenching for the proposed water lines.

N. Bid Item No. 36 – Temporary Support Existing Concrete Utility Trench Box. Payment is on a unit price basis and includes labor, equipment, and materials necessary for providing temporary support to existing concrete utility trench box that crosses open cut trenching for the proposed water lines.

O. Bid Item No. 37 – Pipe Support Structures for 42-inch above grade piping at LLPS #1. Payment is on a lump sum basis and includes labor, equipment, and materials necessary for installing above grade pipe supports at LLPS #1 as shown on the Drawings.

P. Bid Item No. 38 – Temporary Stop Gate for LLPS #1. Payment is on a lump sum basis and includes labor equipment and materials for fabricating a stop gate and inserting into wall grooves at LLPS #1 for isolating discharge chamber. Refer to details in Section 01110. Includes removal of stop gate after completion of work at LLPS #1.

Q. Bid Item No. 41 – Pipe Support Structures for 60-inch and 48-inch above grade piping at LLPS #2. Payment is on a lump sum basis and includes labor, equipment, and materials necessary for installing above grade pipe supports at LLPS #2 as shown on the Drawings.

R. Bid Item No. 42 – 42-inch connection to box at LLPS #1. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 42-inch pipe wall connection at LLPS #1 as shown on the Drawings.

S. Bid Item No. 43 – 48-inch connection to box at LLPS #2. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 48-inch pipe wall connections at LLPS #2 as shown on the Drawings.

T. Bid Item No. 51 – 60-inch diameter above grade steel water line. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 60-inch above grade piping as shown on the Drawings.

U. Bid Item No. 52 – 48-inch diameter above grade steel water line. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 48-inch above grade piping as shown on the Drawings.

V. Bid Item No. 53 – 42-inch diameter above grade steel water line. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 4-inch above grade piping as shown on the Drawings.

W. Bid Item No. 54 – 36-inch diameter above grade steel water line. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 36-inch above grade piping as shown on the Drawings.

X. Bid Item No. 57 – Remove and Salvage Exist. 36-inch Butterfly Valve and blind

flange at LLPS #1. Payment is on a unit price basis and includes labor, equipment, and materials necessary for removing existing 36-inch butterfly valve at LLPS #1 and transporting valve to location on EWPP site as designated by EWPP contact personnel.

Y. Bid Item No. 61 – Cut in 60-inch Diameter butterfly valve on exist. above grade 60-inch water line, complete in place. Payment is on a lump sum basis and includes cutting out ±5 LF of 60-inch pipe, flanged adapter and butt strap closure piece, 60-inch butterfly valve with electric actuator, pressure gage, electrical service connections, SCADA service connections, as shown on the Drawings and in accordance with requirements in the Specifications.

Z. Bid Item No. 66 - Remove and Replace 36-inch butterfly valve at LLPS #2. Payment is on a unit price basis and includes removal and disposal of existing 36-inch butterfly valves and actuators at wall inside LLPS #2 discharge chamber. Payment includes new valve and new floor-stand actuator mounted at top of LLPS, similar to existing arrangement.

AA. Bid Item No. 71 – Insertion Type Flow Meter on existing 60-inch water line access manway. Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 60-inch insertion-type magnetic flow meter in accordance with details on Drawings and requirements in Specifications.

BB. Bid Item No. 72 – Remove and replace 2-inch air release valve on filter backwash header. Payment is on a unit price basis and includes labor, equipment, and materials necessary for removing existing air release valves to the limits shown on the Drawings and installing new air release valves in accordance with details shown on the Drawings and requirements in the Specifications.

CC. Bid Item No. 79 – Cut and Plug 18-inch storm sewer. Payment is on a unit price basis and includes labor, equipment, and materials necessary for cutting existing 18-inch storm sewer and plugging end with flowable fill.

DD. Bid Item No. 87 – Remove and dispose of concrete curb. Payment is on a unit price basis and includes labor, equipment, and materials necessary for removing and disposing of concrete curb as required for installing water lines.

EE. Bid Item No. 96 - Vault Structure (CWA-B FCV). Payment is on a lump sum price basis and includes labor, equipment, and materials necessary for installing vault structure in accordance with details on Drawings and requirements in Specifications. Includes pipe supports, access ladders, handrails, sample piping within the vault, and sample piping vault wall penetration.

FF. Bid Item No. 103 – Insertion Type Flow Meter for 42-inch diameter water line (CWA-B FCV). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 42-inch insertion type flow meter in accordance with details shown on the Drawings and requirements in the Specifications.

GG. Bid Item No. 104 – Pressure Transmitter (CWA-B FCV). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing pressure transmitter in accordance with details on the Drawings and requirements in Specifications.

HH. Bid Item No. 106 – Duplex Sump Pump system (CWA-B FCV). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing duplex sump pump system in accordance with details shown on Drawings and requirements in Specifications.

II. Bid Item No. 107 - Vault Structure (COH-B FCV). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing vault structure in accordance with details on Drawings and requirements in Specifications. Includes pipe supports, access ladders, handrails, sample piping within the vault, and sample piping vault wall penetration.

JJ. Bid Item No. 111 – Insertion Type Flow Meter for 48-inch diameter water line (COH-B FCV). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 42-inch insertion type flow meter in accordance with details shown on the Drawings and requirements in the Specifications.

KK. Bid Item No. 112 – Pressure Transmitter (COH-B FCV). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing pressure transmitter in accordance with details on the Drawings and requirements in Specifications.

LL. Bid Item No. 114 – Simplex Sump Pump system (COH-B FCV). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing simplex sump pump system in accordance with details shown on Drawings and requirements in Specifications.

MM. Bid Item No. 115 - Vault Structure (COH-C FCV#1). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing vault structure in accordance with details on Drawings and requirements in Specifications. Includes pipe supports, access ladders, handrails, sample piping within the vault, and sample piping vault wall

penetration.

NN. Bid Item No. 119 – Insertion Type Flow Meter for 36-inch diameter waterline (COH-C FCV#1). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 36-inch insertion type flow meter in accordance with details shown on the Drawings and requirements in the Specifications.

OO. Bid Item No. 120 – Pressure Transmitter (COH-C FCV#1). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing pressure transmitter in accordance with details on the Drawings and requirements in Specifications.

PP. Bid Item No. 122 – Simplex Sump Pump System (COH-C FCV#1). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing simplex sump pump system in accordance with details shown on Drawings and requirements in Specifications.

QQ. Bid Item No. 123 - Vault Structure (COH-C FCV#2). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing vault structure in accordance with details on Drawings and requirements in Specifications. Includes pipe supports, access ladders, handrails, sample piping within the vault, and sample piping vault wall penetration.

RR. Bid Item No. 127 – Insertion Type Flow Meter for 54-inch diameter water line (COH-C FCV#2). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing 54-inch insertion type flow meter in accordance with details shown on the Drawings and requirements in the Specifications.

SS. Bid Item No. 128 – Pressure Transmitter (COH-C FCV#2). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing pressure transmitter in accordance with details on the Drawings and requirements in Specifications.

TT. Bid Item No. 130 – Simplex Sump Pump System (COH-C FCV#2). Payment is on a unit price basis and includes labor, equipment, and materials necessary for installing simplex sump pump system in accordance with details shown on Drawings and requirements in Specifications.

UU. Bid Item No. 131 – Control Building CB-1. Payment is on a lump sum basis and includes labor, equipment, and materials necessary for installing control building, including site work for building, foundation and

floor slab, pre-cast concrete building, metal stairway system over flood wall, concrete sidewalk, water sample piping from vaults to building, water sample and drain and vent piping inside building, drain piping from building to outfall, mechanical equipment (AC units), electrical (panels, conduits, conductors, and connections), instrumentation, and SCADA equipment and connections.

VV. Bid Item No. 132 – Control Building CB-2. Payment is on a lump sum basis and includes labor, equipment, and materials necessary for installing control building, including site work for building, foundation and floor slab, pre-cast concrete building, concrete sidewalk, water sample piping from vaults to building, water sample and drain and vent piping inside building, drain piping from building to outfall, mechanical equipment (AC units), electrical (panels, conduits, conductors, and connections), instrumentation, and SCADA equipment and connections.

WW. Bid Item No. 133 – Site Electrical and SCADA. Payment is on a lump sum basis and includes labor, equipment, and materials necessary for installing site electrical and SCADA facilities, modifications, and connections to existing and new facilities as indicated on the Drawings and in accordance with the details on the Drawings and requirements in the Specifications. Includes radio antenna at Control Building CB-1, software, hardware, and licenses and other ancillary equipment and hardware necessary for complete installation of electrical and SCADA.

XX. Bid Item No. 141 – Demobilization/Remobilization. Payment is on an extra unit price basis and includes labor, equipment, and materials necessary for demobilizing from the site and re-mobilizing to the site as may be directed by the City due to conflicts with plant operations and scheduled shutdowns for the work, or as may be necessary and determined by the City. Payment includes securing equipment and materials or removing equipment and materials as may be required to avoid damages to work or loss of equipment and materials, and protecting work areas.

YY. Bid Item No. 143 – Remove and Dispose of Exist. Abandoned 60-inch, 48-inch and 42-inch Water Line. Payment is on a unit price basis and includes labor, equipment and materials necessary for removing and disposing of existing abandoned 60-inch, 48-inch and 42-inch water line to construct new piping and flow control valve vaults. Payment includes cutting piping and plugging end of piping that remains in place.

ZZ. Bid Item No. 144 – Relocate Exist. Electrical Conduit at LLPS #2 at NW Piling for Support Structure. Payment is on a lump sum basis and includes labor, equipment and materials necessary for relocating existing electrical conduits at LLPS #2 at the proposed NW piling for the direct connection piping support structure.

END OF SUPPLEMENT

Approved by:

Arthur Morris

11/10/2015

Sonny Do, P.E.
for Acting Assistant Director
Water Engineering Section
Engineering and Construction Division

Date

Section 02221S

REMOVING EXISTING PAVEMENTS, STRUCTURES, WOOD, AND DEMOLITION DEBRIS

The following supplements modify Specification Section 02221 – Removing Existing Pavements, Structures, Wood, and Demolition Debris. Where a portion of the Specification or Detail is modified or deleted by this Supplementary Specification, the unaltered portions of the Specification shall remain in effect.

1.03 REGULATORY REQUIREMENTS: Add the following Paragraph C:

C. For removal of asbestos containing materials, or material that could potentially contain asbestos, comply with applicable provisions of OSHA 29 CFR 1926.1101 – Asbestos, OSHA 29 CFR 1926.32 – General Safety and Health Provisions, and EPA 40 CFR 61 Subpart M – National Emission Standard for Asbestos.

3.01 PREPARATION: Add the following Paragraph C:

C. For removal of asbestos containing materials, or materials that could potentially contain asbestos, comply with the following:

1. Crew members must be trained in accordance with OSHA 29 CFR 1926.1101 – Asbestos.
2. Conduct negative exposure assessment to demonstrate asbestos exposure below permissible exposure limit (PEL) in accordance with OSHA 29 CFR 1926.1101 – Asbestos and EPA 40 CFR 763 – Asbestos.
3. If negative exposure assessment not conducted, or if results are above PEL, provide respiratory protection in accordance with Paragraph 3.02 of this Section.

3.02 PROTECTION: Add the following Paragraph B:

B. When required, provide respiratory protection in accordance with OSHA 29 CFR 1910.134 – Respiratory Protection, and National Institute of Occupational Safety and Health (NIOSH).

3.03 REMOVALS: Add the following Paragraph G:

G. Labeling of Asbestos Cement (AC) Pipe:

1. Label leak-tight container with warning statement of hazardous asbestos content in accordance with OSHA 29 CFR 1926.1101 and as noted below.
2. Label waste material with following warning:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

3. Neatly print labels in letters of sufficient size and contrast so label is easily visible and legible.

3.05 DISPOSAL: Add the following Paragraph C:

C. For asbestos-containing materials:

1. Comply with 40 CFR Part 61 and 30 TAC Sections 330.137(b) for Industrial Class 1 waste.
2. Inspect load to ensure correct packaging and labeling.
3. Line vehicles with two layers of 6-mil polyethylene sheeting.
4. Remove asbestos-containing waste from site daily.

END OF SUPPLEMENT

Approved by:

Mark L. Loethen, P.E., CFM, PTOE
City Engineer
Department of Public Works & Engineering

11/17/2012
Date

SECTION 13121

FLOW CONTROL SLUICE GATES

1. GENERAL CONDITIONS

1.1. SCOPE. This section covers Stainless Steel Flow Control Sluice Gates and operators.

1.2. GENERAL. The equipment provided under this section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with the drawings, specifications, engineering data, instructions and recommendations of the equipment manufacturer unless exceptions are noted by the engineer.

Gates and operators shall be supplied with all the necessary parts and accessories indicated on the drawings, specified or otherwise required for a complete, properly operating installation, and shall be the latest standard product of a manufacturer regularly engaged in the production of fabricated gates.

Gates supplied under this section shall be Series 20 Stainless Steel Flow Control Sluice Gates as manufactured by H.Fontaine Ltd.

1.3. GOVERNING STANDARDS. Except as modified or supplemented herein, all gates and operators shall conform to the applicable requirements of AWWA C561, latest edition.

1.4. QUALITY ASSURANCE

1.4.1. The manufacturer shall have experience in the production of substantially similar equipment, and shall show evidence of satisfactory operation in at least 50 installations. The manufacturer's shop welds, welding procedures and welders shall be qualified and certified in accordance with the requirement of the latest edition of ASME, Section IX.

1.4.2. Gates shall be shop inspected for proper operation before shipping.

1.4.3. The manufacturer shall be ISO 9001: 2000 certified.

1.5 MEASUREMENT AND PAYMENT

1.5.1. Payment for sluice gates is on a unit price basis. Payment includes floor-stand type actuator and appurtenances necessary for complete installation of the sluice gate.

1.5.2 Payment for sluice gates shall include costs for a trained employee from the sluice gate manufacturer to inspect the wall mounting configuration of the existing sluice gates at LLPS #1 and wall for mounting sluice gates at LLPS #2, inspect actuator floor-stand pedestal type mounting configurations at both LLPS #1 and LLPS #2, and determine the dimensions and mounting configurations for the new sluice gates and actuator pedestals at LLPS #1 and LLPS #2. Mounting configurations for sluice gates and sluice gate dimensions and actuator pedestals installed at LLPS #1 and LLPS #2 shall be designed by the sluice gate manufacturer. Mounting configuration designs shall be sealed by a licensed Professional Engineer in the State of Texas and shall be submitted with shop drawings.

1.5.3. Refer to Section 01270 – MEASUREMENT AND PAYMENT for unit price procedures.

1.6. SUBMITTALS.

1.6.1 Submit for approval by Project Manager, drawings showing the principal dimensions, general construction and materials used in the gate and lift mechanism in accordance with Section 01330 – Submittal Procedures.

1.6.2 Submit operation and maintenance manual in accordance with requirements of Section 01330 – Submittal Procedures and Section 01782 – Operation and Maintenance Data.

1.7 PERFORMANCE

1.7.1. LEAKAGE. Sluice gates shall be substantially watertight under the design head conditions. Under the design seating head, the leakage shall not exceed 0.05 U.S. gallon per minute per foot (0.60 l/min per meter) of seating perimeter. Under the design unseating head, the leakage for heads of 20 feet (6m) or less shall not exceed 0.1 U.S. gallon per minute per foot (1.25 l/min per meter) of perimeter. For unseating heads greater than 20 feet (6m), the allowable leakage shall not exceed the rate per foot (meter) of perimeter specified by the following equations :

Maximum allowable leakage

Gallons per minute per foot of perimeter :
= 0.10 + (0.0025 x (unseating head in feet - 20))

Liters per minute per meter of perimeter :
= 1.25 + (0.1025 x (unseating head in meters - 6.1))

Example : If we have a gate with 35 feet head, the leakage for the unseating head will be :
0.10+(0.0025 x (35 -20)) = 0.1375 US gpm/ft of perimeter

1.7.2. DESIGN HEAD. The sluice gates shall be designed to withstand the design head shown in the schedule.

1.7.3. SEAL PERFORMANCE TEST. The gate's sealing system should have been tested through a cycle test in an abrasive environment and should show that the leakage requirements are still obtained after 25,000 cycles with a minimum deterioration.

2. PRODUCTS

2.1. SLUICE GATES

2.1.1. GENERAL DESIGN. Gates shall be non-self-contained with rising stem.

2.1.2. FRAME. The gate frame shall be constructed of structural members or formed plate welded to form a rigid one-piece frame. The frame shall be of the flange back design suitable for mounting on a concrete wall. The guide slot shall be made of UHMWPE (ultra high molecular weight polyethylene).

The frame configuration shall be of the flush-bottom type and shall allow the replacement of the top and side seals without removing the gate frame from the concrete wall.

2.1.3. SLIDE. The slide shall consist of a flat plate reinforced with formed plates or structural members to limit its deflection to 1/720 of the gate's span under the design head.

2.1.4. GUIDES AND SEALS. The guides shall be made of UHMWPE (ultra high molecular weight polyethylene) and shall be of such length as to retain and support at least two thirds (2/3) of the vertical height of the slide in the fully open position.

Side and top seals shall be made of UHMWPE (ultra high molecular weight polyethylene) of the self-adjusting type. A continuous compression cord shall ensure contact between the UHMWPE guide and the gate in all positions. The sealing system shall maintain efficient sealing in any position of the slide and allow the water to flow only in the opened part of the gate.

The bottom seal shall be made of resilient neoprene set into the bottom member of the frame and shall form a flush-bottom.

2.2. OPERATORS AND STEM

2.2.1. STEM AND COUPLINGS. The operating stem shall be of stainless steel designed to transmit in compression at least 2 times the rated output of the operating manual mechanism with a 40 lbs (178 N) effort on the crank or handwheel.

The stem shall have a slenderness ratio (L/r) less than 200. The threaded portion of the stem shall have machined cut threads of the Acme type.

Where a hydraulic, pneumatic or electric operator is used, the stem design force shall not be less than 1.25 times the output thrust of the hydraulic or pneumatic cylinder with a pressure equal to the maximum working pressure of the supply, or 1.25 times the output thrust of the electric motor in the stalled condition.

2.2.1.1. For stems in more than one piece and with a diameter of 1¾ inches (45 mm) and larger, the different sections shall be joined together by solid bronze couplings. Stems with a diameter smaller than 1¾ inches (45 mm) shall be pinned to an extension tube.

The couplings shall be grooved and keyed and shall be of greater strength than the stem.

2.2.1.2. Gates having a width greater than two times their height shall be provided with two lifting mechanisms connected by a tandem shaft.

2.2.2. STEM GUIDES. Stem guides shall be fabricated from type 304L (or 316L) stainless steel. The guide shall be equipped with an UHMWPE bushing. Guides shall be adjustable and spaced in accordance with the manufacturer's recommendation. The L/r ratio shall not be greater than 200.

2.2.3. STEM COVER. Rising stem gates shall be provided with a clear polycarbonate stem cover. The stem cover shall have a cap and condensation vents and a clear mylar position indicating tape. The tape shall be field applied to the stem cover after the gate has been installed and positioned.

2.2.4. LIFTING MECHANISM. Manual operators shall be provided by the gate manufacturer.

All bearings and gears shall be totally enclosed in a weather tight housing. The pinion shaft of crank-operated mechanisms shall be constructed of stainless steel and supported by roller or needle bearings.

Each manual operator shall be designed to operate the gate under the maximum specified seating and unseating heads by using a maximum effort of 40 lbs (178 N) on the crank or handwheel, and shall be able to withstand, without damage, an effort of 80 lbs (356 N).

The crank shall be removable and fitted with a corrosion-resistant rotating handle. The maximum crank radius shall be 15 inches (381 mm) and the maximum handwheel diameter shall be 24 inches (610 mm).

2.2.5. YOKE. Self-contained gates shall be provided with a yoke made of structural members or formed plates. The maximum deflection of the yoke shall be 1/360 of the gate's span.

2.3. MATERIALS

PART	MATERIAL
Frame, yoke, stem guides, slide, stem extension	Stainless steel ASTM A-240 type 304L or 316L
Side seals, stem guide liner	Ultra high molecular weight polyethylene (UHMWPE) ASTM D-4020
Compression cord	Nitrile ASTM D2000 M6BG 708, A14, B14, E014, E034
Bottom seal	Neoprene ASTM D2000 Grade 2 BC 510
Threaded stem	Stainless steel ASTM A-276 type 303 MX or 316
Fasteners	ASTM F593 and F594 GR1 for type 304 and GR2 for type 316
Pedestal, handwheel and crank	Tenzaloy aluminum
Gasket (between frame and wall)	EPDM ASTM 1056
Stem cover	Polycarbonate ASTM D-3935
Lift nut, couplings	Manganese bronze ASTM B584 UNS-C86500

3. EXECUTION

3.1. INSTALLATION. Sluice gates and appurtenances shall be handled and installed in accordance with the manufacturer's recommendations.

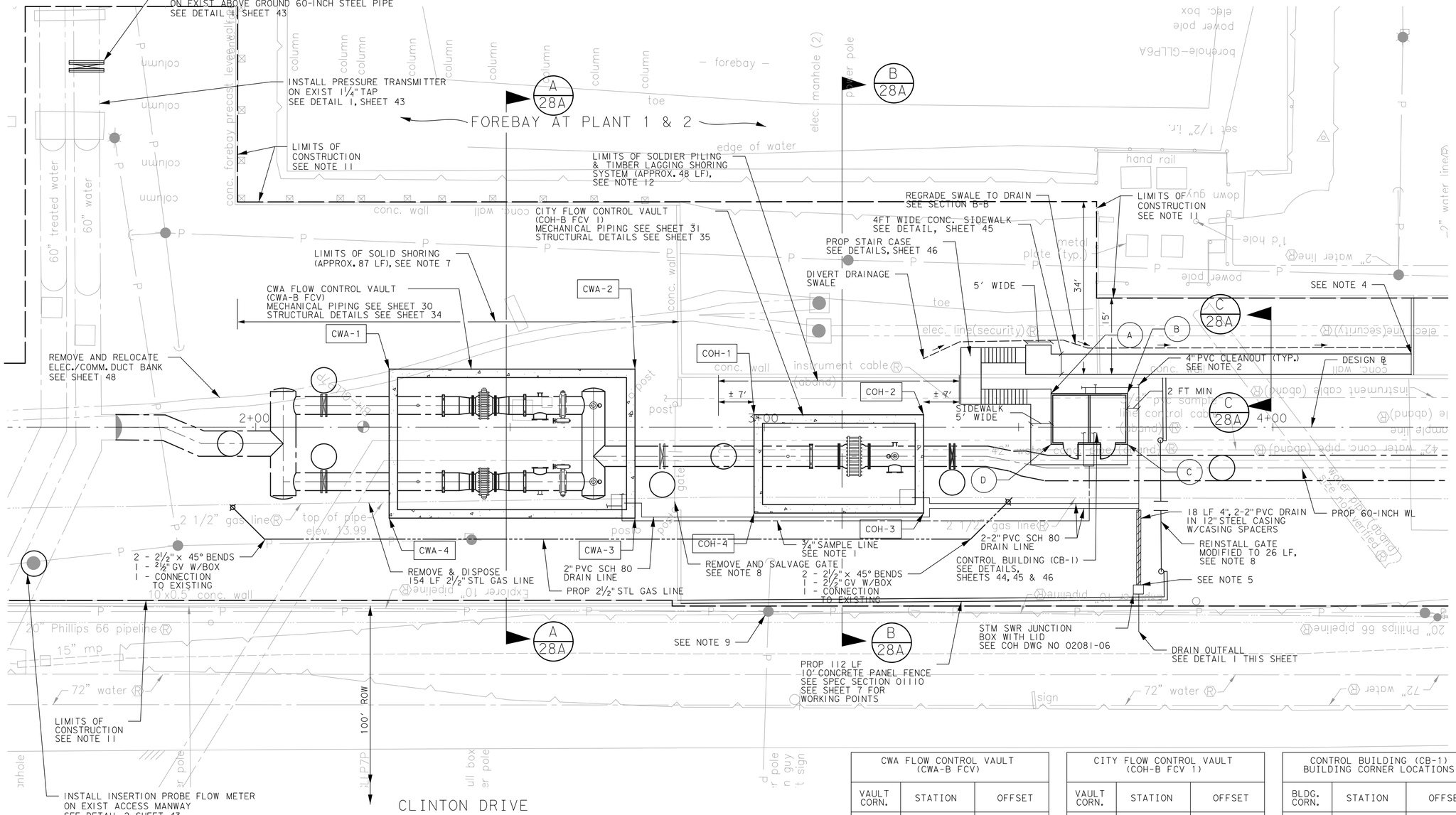
3.1.1. Sluice gates shall be installed with a wall mounted configuration using anchor bolts, drilled and epoxy grouted into concrete wall, based on manufacturer’s recommendations. Sluice gates shall be mounted inside LLPS discharge box to provide flow control through existing 54-inch gravity lines extending from discharge box.

3.2. FIELD TESTS

3.2.1. Following the completion of each gate installation, the gates shall be operated through at least two complete open/close cycles. If an electric or hydraulic operator is used, limit switches shall be adjusted following the manufacturer's instructions.

3.2.2. Gates should be checked for leakage by the contractor (refer to the “Performance” section for approval criteria).

END OF SECTION



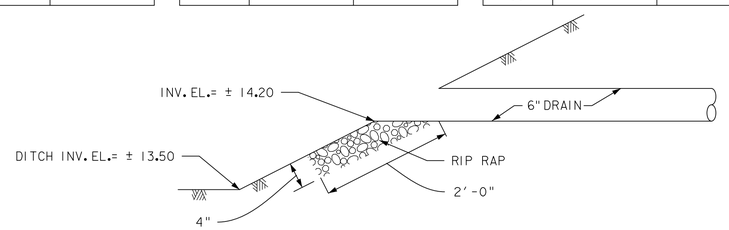
NOTES

1. ¾" SAMPLE LINE PIPING IN THE VAULT SEE SHEET 30 AND PIPING IN THE CONTROL BUILDING (CB-1) SEE SHEET 44.
2. 4" PVC DRAIN LINE PIPING IN THE CONTROL BUILDING (CB-1) SEE SHEET 44.
3. FOR PIPING INFORMATION OUTSIDE FLOW CONTROL VAULTS SEE PLAN AND PROFILE SHEETS.
4. TERMINATE SIDEWALK AT CURB (PROPOSED BY OTHERS). SEE SPECIFICATION SECTION 01110.
5. TERMINATE CASING AT JUNCTION BOX. CONNECT 4" PVC, 2-2" PVC DRAIN LINES TO JUNCTION BOX. MAINTAIN FLOW LINE AND SLOPE FOR 4" PVC DRAIN LINE (GRAVITY LINE) IN STEEL CASING.
6. PROVIDE CUSTOM SHORING FOR VAULT CONSTRUCTION TO PROJECT ADJACENT STRUCTURES (CONCRETE FLOODWALLS, FOREBAY LEVEE). SUBMIT SHORING PLAN SHOP DRAWING WITH DETAILS AND CALCULATIONS SEALED BY PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS.
7. PROVIDE CUSTOM SOLID SHORING BETWEEN CWA FLOW CONTROL VAULT AND FOREBAY LEVEE. SEE SPECIFICATION SECTIONS 02260 AND 02316 FOR REQUIREMENTS. DEPTH OF SHORING TO BE DETERMINED BY CONTRACTOR'S ENGINEER. SOLID SHORING BETWEEN VAULT AND FOREBAY SHALL REMAIN INPLACE AFTER CONSTRUCTION OF VAULT, REMOVE TOP SECTION OF SOLID SHORING TO A DEPTH OF 4 FT BELOW GRADE.
8. SEE SPECIFICATION SECTION 01110 FOR DETAILS ON REMOVING, MODIFYING AND REINSTALLING GATE.
9. PRIOR TO CONSTRUCTING 10' CONC PANEL FENCE, COORDINATE WITH CENTERPOINT ENERGY FOR REMOVING EXIST. GUY WIRE AND REBRACING POLE WITH GUY WIRE TO BE LOCATED OUTSIDE OF FENCED AREA, OR RELOCATING POWER POLE AND GUY WIRE AS MAY BE REQUIRED. SEE SECTION 01110.
10. REGRADE DISTURBED AREAS TO PRE-CONSTRUCTION ELEVATIONS OR AS INDICATED ON DWGS. GRADE DISTURBED AREAS TO ELIMINATE PONDING AND PROVIDE DRAINAGE TOWARD DITCH ALONG CLINTON DRIVE.
11. CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT WITHIN 15 FT OF LEVEE FLOODWALL.
12. PROVIDE CUSTOM SHORING CONSISTING OF SOLDIER PILING AND TIMBER LAGGING SYSTEM BETWEEN VAULT AND FLOODWALL (APPROX. 48 LF). SEE SPECIFICATION SECTIONS 02260 AND 02316 FOR REQUIREMENTS. SHORING SHALL REMAIN IN PLACE. AFTER CONSTRUCTION OF VAULT, REMOVE TOP OF SOLDIER PILINGS AND TIMBER LAGGINGS TO A DEPTH OF 2 FT. BELOW GRADE.

CWA FLOW CONTROL VAULT (CWA-B FCV)		
VAULT CORN.	STATION	OFFSET
CWA-1	2+26.24	11.43 LT
CWA-2	2+74.57	11.43 LT
CWA-3	2+74.57	17.90 RT
CWA-4	2+26.24	17.90 RT

CITY FLOW CONTROL VAULT (COH-B FCV 1)		
VAULT CORN.	STATION	OFFSET
COH-1	2+97.99	2.44 LT
COH-2	3+31.32	2.44 LT
COH-3	3+31.32	16.89 RT
COH-4	2+97.99	16.89 RT

CONTROL BUILDING (CB-1) BUILDING CORNER LOCATIONS		
BLDG. CORN.	STATION	OFFSET
A	3+56.38	6.63 LT
B	3+71.38	6.63 LT
C	3+71.38	13.89 RT
D	3+56.38	13.89 RT



1 DRAIN OUTFALL DETAIL
NTS

No.	Date	Revisions	App.
1	11/9/2015	ADDENDUM 1	WWW

SWTP
Surface Water Transmission Program

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY
2925 Briarpark Drive Houston, TX 77042

STATE OF TEXAS
WILLIAM M. WILSHIRE III
94193
LICENSED PROFESSIONAL ENGINEER
Lockwood, Andrews & Newnam, Inc Firm No. 2614

SURVEYED BY:
KUO & ASSOCIATES, INC
C.O.H. Field Book P-5858

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

LLPS DIRECT CONNECTION AND PRS AT EWPP

SITE PLAN (1 OF 3)
CWA B - FCV,
COH B - FCV 1,
CONTROL BUILDING (CB-1)

WBS NO.	S-000902-0133-4
DRAWING SCALE	1"=10'
CITY OF HOUSTON PM	ARTHUR C. MORRIS, P.E.
SHEET NO.	28 OF 92

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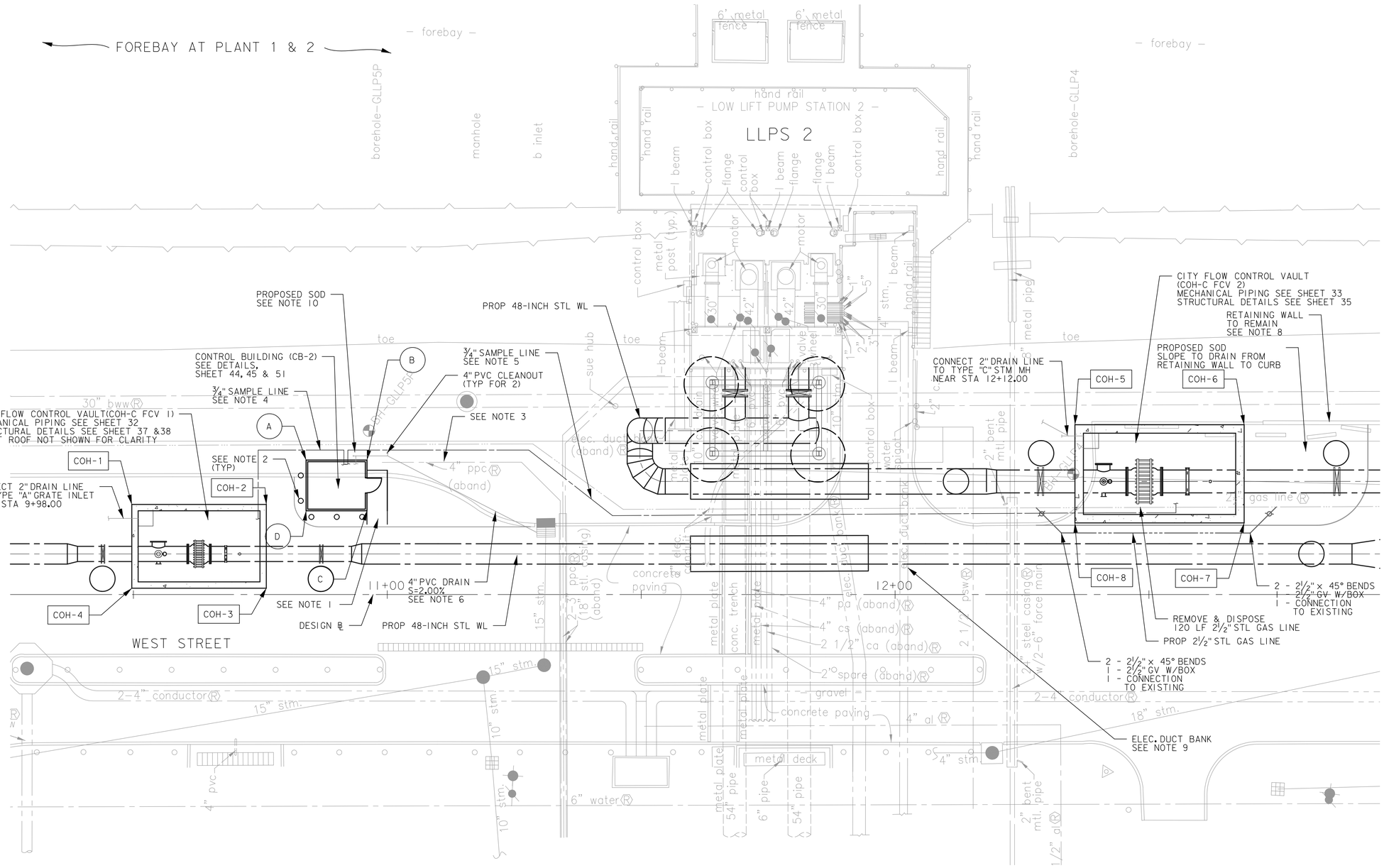

NOTES:

1. 4 FT WIDE SIDEWALK TOWARDS CONTROL BUILDING FOR ACCESS. SEE DETAIL 3, SHEET 45.
2. PROP BOLLARDS, SEE DETAIL, SHEET 42.
3. REMOVE AND DISPOSE AS NECESSARY, NO SEPERATE PAY.
4. ¾" SAMPLE LINE PIPING IN THE VAULT SEE SHEET 32 AND PIPING IN THE CONTROL BUILDING (CB-2) SEE SHEET 44.
5. ¾" SAMPLE LINE PIPING IN THE VAULT SEE SHEET 33 AND PIPING IN THE CONTROL BUILDING (CB-2) SEE SHEET 44.
6. 4" PVC DRAIN LINE PIPING IN THE CONTROL BUILDING (CB-2) SEE SHEET 44. CONNECT 4" DRAING LINE TO TYPE B-B CURB INLET AT INV. ELEV.= ± 11.00
7. FOR PIPING INFORMATION OUTSIDE FLOW CONTROL VAULTS SEE PLAN AND PROFILE SHEETS.
8. RETAINING WALL FROM RECENT IMPROVEMENTS BY OTHERS WITH WBS NO. S-000056-0063-4. PAVEMENT REPLACEMENT LIMITS TO BE TILL THE SAW CUT JOINT JOINT OF EXISTING RETAINING. DO NOT DISTRUB RETAINING WALL WITH CONSTRUCTION ACTIVITIES.
9. ELECTRICAL DUCT BANK (3-2" CONDUITS) FROM RECENT IMPROVEMENTS BY OTHERS WITH WBS NO. S-000056-0068-4. VERIFY EXISTING CONDITIONS AND SUPPORT DUCT BANKS/ CONDUITS AS NECESSARY FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
10. SLOPE TO DRAIN AWAY FROM BUILDING LIMITS FOR 1 FT MIN AND REGRADE TO MATCH EXISTING.

0 10 20
(IN FEET)
1 inch = 10 ft.

CRITICAL LOCATE
SEE SPEC NO. 02317

CITY FLOW CONTROL VAULT (COH-C FCV 1)		
VAULT CORN.	STATION	OFFSET
COH-1	10+49.68	17.75 LT
COH-2	10+76.18	17.75 LT
COH-3	10+76.18	1.25 LT
COH-4	10+49.68	1.25 LT

CITY FLOW CONTROL VAULT (COH-C FCV 2)		
VAULT CORN.	STATION	OFFSET
COH-5	2+97.99	5.44 LT
COH-6	3+31.32	5.44 LT
COH-7	3+31.32	13.89 RT
COH-8	2+97.99	13.89 RT

CONTROL BUILDING (CB-2) BUILDING CORNER LOCATIONS		
BLDG. CORN.	STATION	OFFSET
A	10+84.00	26.50 LT
B	10+96.00	26.50 LT
C	10+84.00	16.50 LT
D	10+96.00	16.50 LT

No.	Date	Revisions	App.
1	11/9/2015	ADDENDUM 1	WWW

SWTP
Surface Water Transmission Program

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DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

LLPS DIRECT CONNECTION AND PRS AT EWPP

SITE PLAN (3 OF 3)
COH C - FCV 1,
COH C - FCV 2,
CONTROL BUILDING (CB-2)

WBS NO. S-000902-0133-4	
DRAWING SCALE	
1"=10'	
CITY OF HOUSTON PM	
ARTHUR C. MORRIS, P.E.	
SHEET NO. 29 OF 92	

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